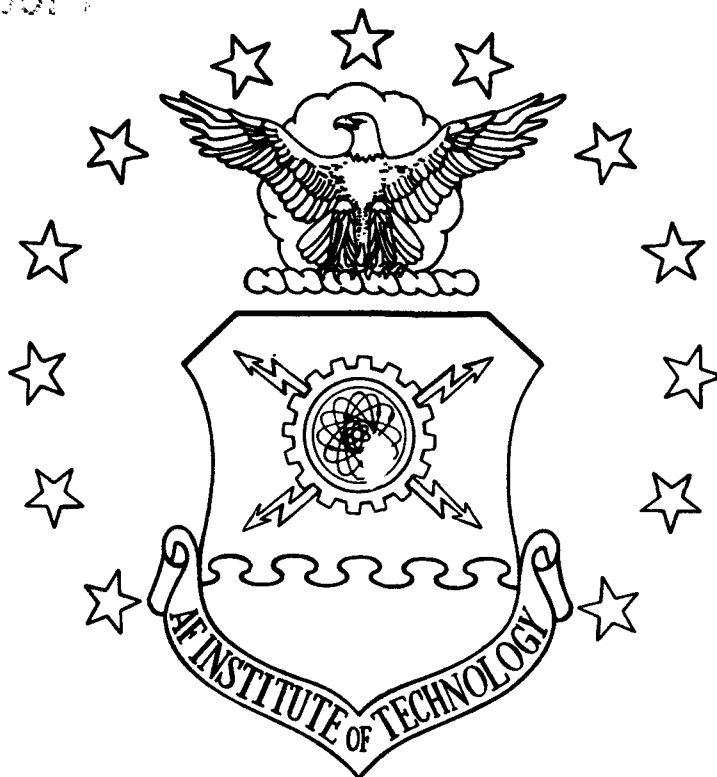


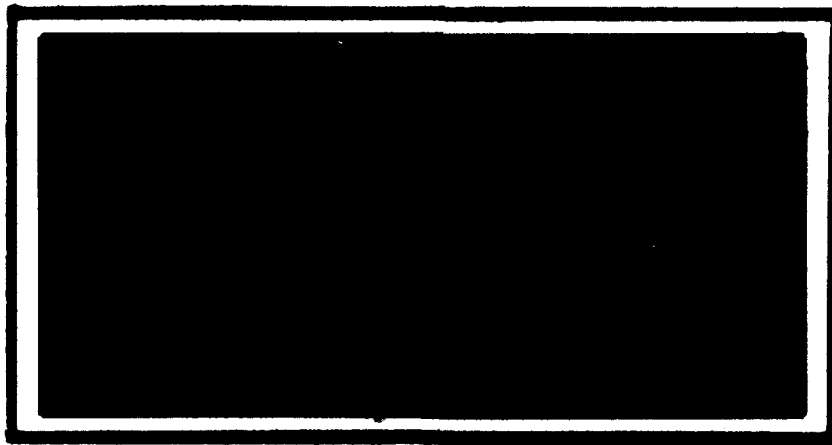
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A SURVEY OF CONTRACTORS' PERCEPTIONS
OF CURRENT BARRIERS TO CONTRACTING
WITH THE DEPARTMENT OF DEFENSE AND
THE POTENTIAL BENEFITS OF THE ADOPTION
OF COMMERCIAL STYLE ACQUISITION METHODS

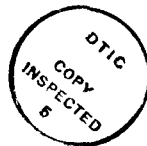
THESIS

Eleanor G. Holland

AFIT/GLM/LSP/90S-26

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A SURVEY OF CONTRACTORS' PERCEPTIONS
OF CURRENT BARRIERS TO CONTRACTING
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OF COMMERCIAL STYLE ACQUISITION METHODS

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Eleanor G. Holland

September 1990

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Preface

The purpose of this research effort was to investigate if there is quantitative support for the general premise that current Department of Defense contractual practices should be replaced with commercial style contracting methods, when appropriate, to reduce costs, improve delivery performance, and increase competition.

An extensive telephone survey of contractors in the electronics industry was conducted to obtain their responses to key questions regarding governmental and commercial contracting practices. The results were analyzed and presented in this thesis. Further research is needed to find if similar results would be found in other industries.

Many individuals have provide valuable help in conducting the research and writing this thesis. I am deeply indebted to my thesis advisor, Dr. Rita Wells, for her insight, assistance, and encouragement. I would like to acknowledge the guidance of Dr. Guy Shane in developing the survey and in analyzing the results. I am very grateful to Margaret Janes, Chief of the Policy Branch, Contracting Directorate, Defense Logistics Agency, for recommending this topic for study. Finally, I wish to thank my family who have been so supportive and encouraging.

Eleanor G. Holland

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Abstract

This study investigated the potential benefits of adopting commercial style contracting methods for the acquisition of commercial items by the Department of Defense (DoD). Also analyzed were contractors' opinions about possible barriers to contracting with DoD. A literature review indicated that many experts agree that current methods are too complex and that today's environment would welcome development of a pilot program in commercial style contracting. A survey was administered to approximately 400 contractors in the electronics industry. The results indicate that electronics contractors believe commercial style contracting methods would reduce the cost of supplies, decrease delivery times, and increase the number of firms willing to do business with DoD. As a result of these findings, it was recommended that DoD pursue commercial style contracting for commercial items and that a pilot program be developed at the Defense Electronics Supply Center to test this concept. Further data analysis indicated that the respondents considered certain governmental policies or characteristics to discourage participation in DoD acquisitions. Based on these findings, it was recommended that barriers to contracting be reduced.

A SURVEY OF CONTRACTORS' PERCEPTIONS OF CURRENT BARRIERS
TO CONTRACTING WITH THE DEPARTMENT OF DEFENSE AND
THE POTENTIAL BENEFITS OF THE ADOPTION OF
COMMERCIAL STYLE ACQUISITION METHODS

I. Introduction

Background

Attempts to improve the Federal acquisition process began shortly after the birth of our nation, with actions taken by the Second Continental Congress in 1775. Since that time, procurement reform has taken many forms, "among them, commissions, boards, reorganization statutes and interagency task reviews" (Sherman, 1985:3). Often these attempts at improving the process were in response to reports of corruption, malfeasance, or ineptitude within the procurement community. This, in turn, resulted in a loss of public confidence in the procurement process. The media attention given to the so-called procurement "horror" stories of the early 1980s was partially responsible for the most recent attempts to improve the process. (Gansler, 1989:199-202)

In addition, interest in procurement reform initiatives was accelerated when the levels of defense spending increase, as they had during the Reagan Administration. This, together with the media attention and

resulting public outcry generated by the "horror" stories, led President Reagan to form a commission to make recommendations for changes in defense management practices.

The President's Blue Ribbon Commission on Defense Management was established by Executive Order in July 1985 and was headed by David Packard, Chairman of Hewlett-Packard Corporation. This commission, generally referred to as the Packard Commission, was tasked "to evaluate the defense acquisition system, to determine how it might be improved, and to recommend changes that can lead to the acquisition of military equipment with equal or greater performance but at a lower cost and with less delay" (Packard, 1986a:1). The Packard Commission released findings entitled, "A Formula for Action." This was a recommendation that the administration and Congress join forces to implement the following changes in the defense acquisition system:

- A. Streamline Acquisition Organization and Procedures...
- B. Use Technology to Reduce Costs...
- C. Balance Cost and Performance...
- D. Stabilize Programs...
- E. Expand the Use of Commercial Products...
- F. Increase the Use of Competition...
- G. Enhance the Quality of Acquisition Personnel
(Packard, 1986c:52-71)

These recommendations could be viewed as a large umbrella under which dozens of individual initiatives are being pursued. The recommendations were also a call for radical change in the entire defense acquisition process.

Even before the final report was released, "President Reagan and Congress directed the Department of Defense to implement nearly all of the Packard Commission recommendations" (Graham, 1988:ES-1). Since that time, various efforts have been made to realize the far-reaching improvements envisioned by the Packard Commission in its Reports.

Many in government felt that the turning point in the commitment of the Department of Defense (DoD) to deal with this problem came as a result of hearings by the Senate Subcommittee on DoD Use of Commercial Products in May 1989. At these hearings, industry representatives told of their continuing frustration in dealing with the growing complexity of government contracts. Since the hearings, DoD has added more people to work on this issue. From this effort, DoD has developed an agenda including a 31 point action plan which calls for, among other things, regulatory changes to allow more flexible contracting procedures. (Saunders, 1990)

General Issue

The Packard Commission Report focused attention on a number of major Department of Defense problems. Several significant issues from the report dealt with the cost of supplies and the degree of competition in DoD acquisitions. (Packard, 1986b:18) These issues are especially important

in today's environment of significantly reduced budgets and an eroding industrial base. (Silverberg, 1989:24)

A fundamental, underlying concern that must be addressed is how to best function in this environment while efficiently acquiring the supplies needed to maintain the viable fighting force necessary for effective deterrence in times of conflict and appropriate response in face of aggression.

Problem Statement

The Federal procurement process is extremely complex. The legislation and regulation affecting it have increased markedly in recent years. This, in turn, has caused numerous problems for those within the DoD acquisition community and for those firms supplying material to the Department. In contrast with simplified commercial practices, Government contracts for even inexpensive, off-the-shelf items are more complicated, voluminous and difficult to award and administer. This, in part, has been responsible for the increased cost of supplies, the reluctance of firms to do business with DoD, and the high administrative costs associated with DoD acquisitions. (Cohen, 1987:19)

Although various approaches are currently being explored to reduce the cost of supplies, increase the level

of competition, and reduce administrative costs in DoD contracting, the effect of our current procurement methods and the impact of allowing commercial style contracting procedures have not been fully analyzed.

Research Objectives

The objective of this study was to analyze a representative sample of firms in the electronics industry to investigate their beliefs about the current barriers to contracting with DoD and the potential merit of adopting commercial style contracting methods for the acquisition of commercial items.

Variable Categories

In order to simplify referencing throughout the document, groupings of variables have been designated.

"Commercial Style Variables". Four of the variables used frequently in analysis of the data have been assigned the group name, "Commercial Style Variables." These variables represent the respondents' opinions about the differences between current governmental contracting methods and commercial style contracting methods. Specifically, they include their responses in terms of their agreement with the following statements:

1. "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents."

2. "Contractors would be more willing to do business with DoD if they used commercial style contracts."
3. "Contractors would be able to quote lower prices if DoD used commercial style contracts."
4. "Contractors would be able to deliver items faster if DoD used commercial style contracts."

"Barriers". Another group of variables that are mentioned often in the analysis of data are the 17 barriers to doing business with DoD or simply, "Barriers." They are:

1. Small business set-aside program classification.
2. Labor surplus set-aside program classification.
3. Government quality requirements.
4. Government shipping schedules.
5. Military preservation/packaging/marketing.
6. Awards made on price alone versus past performance.
7. Contracts too difficult to understand.
8. Payments too slow.
9. Dealing with government buyers.
10. Dealing with government contract administrators.
11. Dealing with government inspectors.
12. Insufficient time to prepare bids or offers.
13. Government drawings/specifications.
14. Government's inability to reward good suppliers with repeat business.
15. Government cancellation/termination policies.
16. Do not know what DoD wants to buy.
17. Socio-economic clauses.

Investigative Questions

Investigative questions were formulated which relate to the study's objectives, to analyze a representative sample of firms in the electronics industry to determine their beliefs about the potential merit of adopting commercial style contracting methods for the acquisition of commercial items. The investigative questions state the basic issues to be addressed. (Balian, 1988:66-67) The following investigative questions were analyzed in this study:

1. Do contractors view government contracting methods as more difficult to understand than commercial style contracting methods?
2. Would contractors be more willing to do business with DoD if commercial style contracting methods were used when purchasing commercial items?
3. Would the total cost of commercial items be reduced if commercial style contracting methods were utilized by DoD?
4. Do contractors view the typical government practice of awarding on the basis of price alone a barrier to contracting with DoD?

Hypotheses

Hypotheses were used to analyze the data collected. In quantitative research, the statistically testable hypothesis is termed the null hypothesis and is designated H_{0n} , where "n" is the identification number of any one specific hypothesis. "The null hypothesis is simply the hypothesis of no difference or no relationship." (Balian, 1988:70) All

inferential statistical tests are tested against the null hypothesis for statistical significance.

Thus, the null hypothesis is simply the scientifically stated phrase that can be statistically tested. It usually does not represent what the researcher thinks will actually be found in the research, but acts strictly as a statement to be tested. (Balian, 1988:70-71)

Null Hypotheses

H₀₁ - There will be no statistically significant relationships between the variable, "Currently Doing Business with DoD," and any of the "Commercial Style Variables."

H₀₂ - There will be no statistically significant differences between the means of respondents who currently do business with DoD and those who do not in responding to the "Commercial Style Variables."

H₀₃ - There will be no statistically significant relationships between the variable, "Business Size," and any of the "Commercial Style Variables."

H₀₄ - There will be no statistically significant differences between the means of small firms and those of large firms in responding to the "Commercial Style Variables."

H₀₅ - There will be no statistically significant relationships between the variable, "Business Category," and any of the "Commercial Style Variables."

H₀₆ - There will be no statistically significant differences between the means of manufacturers and those of non-manufacturers in responding to the "Commercial Style Variables."

H₀₇ - There will be no statistically significant relationships between the variable, "Currently Doing Business with DoD," and any of the "Barriers to Doing Business with DoD."

H₀₈ - There will be no statistically significant differences between the means of respondents who currently do business with DoD and those who do not in responding to any of the "Barriers to Doing Business with DoD."

H₀₉ - There will be no statistically significant relationships between the variable, "Business Size," and any of the "Barriers to Doing Business with DoD."

H₀₁₀ - There will be no statistically significant differences between the means of small firms and those of large firms in responding to any of the "Barriers to Doing Business with DoD."

H₀₁₁ - There will be no statistically significant relationships between the variable, "Business Category," and any of the "Barriers to Doing Business with DoD."

H₀₁₂ - There will be no statistically significant differences between the means of manufacturers and those of non-manufacturers in responding to any of the "Barriers to Doing Business with DoD."

H₀₁₃ - There will be no statistically significant relationships between any of the "Barriers to Doing Business with DoD."

Research Scope and Limitations

Conclusions regarding the applicability of the findings were limited to the acquisition of electronic non-repairable spare parts acquired by the Department of Defense. A survey was conducted of respondents from among the vendors of electronic spare parts and included both manufacturers and non-manufacturers. Although the scope was limited to one industry, the research findings presented may have wider application. The validity of this broader applicability would require further research in other industries.

Assumptions

A necessary assumption for this study was that current contractual procedures could be replaced with commercial procedures without a negative impact on product quality or Government rights. In other words, the current clauses and provisions, required by the Federal Acquisition Regulation (FAR) and by DoD and DLA, could be eliminated or replaced by

their commercial equivalents found within the Uniform Commercial Code (UCC). A 1987 DLA study described the UCC:

Since 1962, virtually all of the states and other subordinate governmental entities have accepted the UCC as the basic form of agreement for such entities. The use of the UCC in the sales area is unsurpassed for simplicity of understanding and effectiveness of operations. The UCC has substantially remained uniform over the years and has gained strength as a reliable system for business and individuals to contract with one another. (Massey, 1987:3)

An additional assumption required for this study was that the necessary regulatory and legislative waivers and deviations would be granted to allow commercial style contracting as described in this thesis.

Key Terms and Definitions

Commercial style contracting - The acquisition of supplies using the Uniform Commercial Code (UCC) as the basis and quality and reliability as well as price. (Graham, 1988:I-10)

Commercial product - Off-the-shelf items that are sold to the general public and acquired by the Federal Government without modification. (Cohen, 1987:ES-1)

Small business - firms with 500 employees or less. This is the size for firms in the electronics industry to be considered small in most commodity groups. (DESC, 1989:19-1)

Total cost of supplies - The cost of supplies including direct costs (i.e., cost of material, packaging, handling,

and shipping) and indirect costs (i.e., costs associated with lead times, warehousing and handling of inventories, paperwork, and regulatory compliance).

Uniform Commercial Code (UCC) - The body of law which is found in common law and "based on custom, usage, and reason and reflected in judicial pronouncements" (Mahoy, 1985:B-3). It is the method of contracting used by commercial firms in their business transactions in all states except Louisiana.

II. Literature Review

Overview

This literature review examined the complexity of the current DoD acquisition process, especially in the area of the acquisition of commercial parts. It also investigated the attitude of many in the federal acquisition community at all levels and in industry toward streamlining procurement regulations and policies. Finally, this literature review outlined a simplification effort spearheaded by a concerned industry group.

Complexity of the Current Acquisition Process

Recently, the results of a study conducted by the Center for Strategic and International Studies was released.

The study found that despite the defense buildup of the 1980's, increasing numbers of companies are leaving the defense business. In 1982, according to the study, 118,489 firms provided manufactured goods to DoD. By 1987, that number had declined to 38,700. This shrinkage occurred despite a boom in the overall manufacturing sector.

Some of the 79,789 firms that left the defense sector went out of business, including 20,000 small businesses. However, the vast majority simply decided not to do business with DoD. (Silverberg, 1989:24)

Why were firms leaving the defense sector in droves? The findings of a study by a member of the faculty of the Naval Postgraduate School provides some valuable insight. He conducted a survey of firms in selected industries to determine if they wanted defense contracts. He found the following:

Of the 427 responding firms,...213 firms either (1) had significant problems with defense procurement but were in the defense supplier base, or (2) did not want defense contracts....Almost 70 percent of the respondents identified burdensome paperwork as one of the leading causes of problems in dealing with the government....Explaining the situation, one respondent stated that a recent quote on a government job required three weeks and 100 pages of paperwork, in contrast to a similar commercial job that required three hours and 10 pages of paperwork...A bidder new to government contracts said that it "required days of reading to understand the rules and regulations," while another respondent suggested that "bids should be on simple forms using blueprints similar to those used by private firms." (Lamm, 1988:45-55)

The Packard Commission found that the system has become increasingly overregulated :

Federal law governing procurement has become overwhelmingly complex. Each new statute adopted by Congress has spawned more administrative regulation. As law and regulation have proliferated, defense acquisition has become ever more bureaucratic and encumbered by unproductive layers of management and overstaffing. (Packard, 1986b:13)

This report went on to contend the following:

In sum, the Commission finds that there is legitimate cause for dissatisfaction with the process by which the Department of Defense and Congress buy military equipment and material....The truly costly problems are those of overcomplicated organization and rigid procedure, not avarice or connivance. Chances for meaningful improvement will not come from more regulation but only with major institutional change. (Packard, 1986b:15)

The Packard Commission, in their interim report, stated that "Federal law and DoD regulation should provide for substantially increased use of commercial style competition, relying on inherent market forces instead of government intervention" (Packard, 1986b:13).

This view was reiterated by a spokesperson for Honeywell who, in a memorandum to the Senate Subcommittee on Oversight of Government Management, recommended:

The best approach would be to carve out or create a minimum set of regulations that do apply to government contracts with commercial vendors. The system must not operate by exception. It must be easy to understand by both commercial contractors and government procurement officers. This will best alleviate the disincentives and barriers commercial contractors face when attempting to sell commercial product to the government. This memorandum addresses the categories of regulatory requirements that create impediments to commercial contractors doing business with the government....Essentially, any Government Regulation that requires or may require a commercial contractor to change its current practices for producing the commercial product the Government wishes to buy can create a barrier....Requiring commercial contractor's to wade through the plethora of Government regulations they do not employ the staffs to understand and may not comply with is not the answer. (Williamson, 1989:1-4)

A 1987 Executive Research Project provided an evaluation of the Packard Commission's recommendations that encouraged commercial style competition. This report stated:

We believe the recommendation envisioned the following: Eliminate cumbersome paperwork requirements which simply drive away many of the best and most technologically advanced suppliers....Reduce the cost of doing business with the government so that the government can accrue the advantages of lower cost and better products by attracting higher technology companies....Stimulate the government's use of the Uniform Commercial Code to buy goods instead of the myriad of procurement regulations now imposed by the Federal Acquisition Regulation and Federal Statute. (Cohen, 1987:10-11)

This report, evaluating the progress of implementation of the Packard Commission findings, further concluded that

most of the same regulations that apply to systems acquisitions are required for the purchase of basic items of supply.

It's a handicap to the DoD procurement process that the laws and policies fail to recognize the difference between major system procurement and the procurement of standard supplies and spare parts....Unfortunately, the DoD procurement system relies upon structure and regulation rather than judgement and flexibility. (Cohen, 1987:19)

Dr. Jacques Gansler, a noted authority on government contracting practices and former Deputy Assistant Secretary of Defense (Material Acquisition), agreed with these contentions and cited a number of government and industry studies that predict that there are multi-billion-dollar savings associated with certain improvements in government acquisition practices. (Gansler, 1989:340-341) He, too pointed out that one of the major problem areas is "inefficient government procurement regulations and laws." While recognizing that these are difficult to change, the studies Dr. Gansler cited have shown "estimated savings range from 5% to 30% of acquisition costs" which would amount to billions of dollars annually. According to Dr. Gansler, other important problem areas include "excessive specifications (product and process)" and "excessive data and reporting requirements" both of which are associated with savings of five percent. (Gansler, 1989:340-341)

In a recent article, retired Army General Richard Thompson cut quickly to the heart of the matter. He stated:

The primary purpose of a contract is to provide a written record of the obligations incurred by parties to an agreement: "You do this and I'll pay you that." Most commercial contracts stick to this simple objective....Single page solicitations for purchases worth millions are sent by fax each day. These documents are legally binding despite their brevity.

Then why are government contracts and solicitations so voluminous? Because Congress likes to use federal contracts as vehicles for correcting real and perceived deficiencies in the acquisition process, to right social inequities, and to make political statements. Each time Congress passes a law addressing federal contracting, the FAR gains a new subpart, and solicitations add another required provision plus a certification to be completed by each bidder pledging compliance with the new law....It has been this way for a long time. The Uniform Commercial Code (UCC) governs commercial contractions in every state except Louisiana, and it is much larger and complex than the FAR. Yet commercial contracts do not have the UCC attached as an appendix. The reason is that the UCC is the law in 49 states and applies whether its provisions are spelled out in the contract or not. (Thompson, 1990:48)

Higher prices may be paid by the government when acquiring commercial items using current federal regulations. The following example illustrates one reason why this is so.

The differences between commercial and government terms and conditions are mind boggling. For example, in a recent commercial acquisition, the contractor cited more than 70 FAR waivers required for the government to acquire its product on a commercial market price basis. (Vicars 1988:8)

In 1989, Secretary of Defense, Richard Cheney, issued a report to the President, referred to as the Defense Management Review (DMR). This report recognized the inefficiency of current procurement practices in the buying of commercial items of supply. Appendix B of this report,

entitled "Specific Legislative Initiatives", stated:

The Administration should also submit a "Commercial Acquisition Pilot Program Act"...this Pilot Program would require certain DoD components to use the full range of commercial contracting terms and conditions when buying commercial products; exempt the acquisition of commercial products from the numerous statutory requirements that otherwise govern government contracts. (Cheney, 1989:B-2)

This clearly indicated that the use of commercial style contracting has support at the highest levels in DoD.

The Air Force recently formed the Production, Acquisition and Logistics Panel in response to the mandate of the Defense Management Review (DMR). Their 12 September 89 report identified several areas which need to be changed to enable the DoD to effectively implement the DMR. Commercial practices are included under the category of government-specific DMR initiatives. The report viewed the inability of DoD to acquire commercial items as simply as commercial firms as a major problem:

The notion that a purchaser cannot take advantage of free market forces for an item routinely sold in the public domain would be met by most people with no less than skepticism and in the extreme, unbridled hostility. Yet this is currently the situation the DoD finds itself in when attempting to procure a commercial product. As a direct result of our "doctrine of fairness" (the thought that we must ensure that everyone can play), our propensity to require the ultimate in certification and specification adherence among other non-value added things, we have crippled our ability to buy commercial products commercially. Flexibility is essential for our successful implementation of commercial practices. In its most basic sense, if we want to buy commercial products and play in the commercial marketplace, any law that imposes a burden on industry which they themselves do

not impose may be unwelcome and deprive the DoD of that marketplace. (DeLuca, 1989:2)

The Nash and Cibinic Report, a government contract analysis and advice monthly, interpreted the Packard Commission recommendations as including the "use (of) commercial terms and conditions in Government contracts" (Nash, 1989:73) The report went on to state:

Let's focus on one of the more straightforward goals-the use of commercial terms and conditions by the Government. Why can't the Government add a set of contract clauses to the Federal Acquisition Regulation (FAR) which are modeled on commercial clauses?...It can be seen that with a few exceptions the Government could promulgate a standard form contract for buying commercial items emulating commercial practices without any Congressional action....The hope, of course, is that they would attract new companies into the Government market and would make the provisions of the transaction more comprehensible. (Nash, 1989:73-76)

Simplification Efforts

Efforts are under way within DoD to formulate a standard form contract for buying commercial items. To this end, "The Commercial Product Acquisition Team (COMPACT), an organization of commercial vendors, has been working with the federal government since 1985 to establish a comprehensive commercial product acquisition program." (Fluke, 1990:1)

Of the many existing impediments to the efficient acquisition of commercial products by the federal government, COMPACT has long argued that the plethora of contract forms and clauses used by literally thousands of federal buying offices is a costly and inefficient way to buy needed commercial products. Government contract documents have, over the past several years, expanded in size to the point that even the most proficient commercial company has difficulty

in understanding and complying with all of the stated requirements.

The problem actually becomes a barrier to entry into the government marketplace for many small businesses that are unable to afford the necessary expert contracting and legal help. Larger companies must evaluate government contracting opportunities separately to determine whether the added expense is worth the effort.

The dramatic size and extent of the problem was recently highlighted by the Department of Defense when it reported that there are over 11,000 different contract clauses in use at levels below the military departments...nothing in the commercial market place can compare to the dizzying array of clauses that a commercial vendor must face when doing business with the government. Indeed, most commercial vendors are able to operate very successfully in the commercial marketplace, both buying and selling products, based on a form of two or three pages. The government, on the other hand, has reached the extreme of requiring 50 pages of contract language to purchase even the simplest of products. (Fluke, 1990:2-3)

Recently, the staff of the Senate Subcommittee on Oversight of Government Management conducted an investigation with interesting results. Their findings dramatized the problems and confusion that suppliers face when contracting with DoD.

In a hypothetical situation concerning the competitive acquisition of commercial off-the-shelf oscilloscopes, proposed by the Subcommittee staff to one contracting officer from each of the military services, widespread inconsistencies were reported. The Air Force version of the contract included 107 standard clauses, the Navy version 85 standard clauses, and the Army version 99 standard clauses. Of the 140 different clauses that were used by at least one of the services, only 58 were used by all of them. (Fluke, 1990:3)

As a proposed solution to this chaos, COMPACT's draft contract contains less than 50 standard FAR (Federal Acquisition Regulation) and DFARS (DoD FAR Supplement)

clauses. "It is premised on the principle that only those standard clauses required by statute or specifically necessary to protect government interests should be included. Whenever possible, COMPACT relied on standard commercial practices." (Fluke, 1990:3-4) A copy of the draft contract can be found in Appendix A.

Summary

A review of the current literature on the topic of the Federal acquisition process finds that the current DoD methods of acquiring commercial products are costly and block many suppliers from dealing with the Government. Many authorities within and outside of the government are calling for radical change to simplify and improve the process. Commercial style contracting methods are being recognized by the experts as a feasible alternate contracting method for the purchasing of commercial items.

III. Methodology

Introduction

The purpose of this chapter is to introduce the methodology that was used in conducting the study. This includes explanations of the process used in selecting a survey method and the sample, and the methods of data collection and analysis.

Sample

The survey sample was selected randomly from the listing of electronics firms in the Electronics Industry Phone Book, an annually published directory of manufacturers, dealers, and representatives currently doing business in the industry. Firms are not charged for inclusion in this directory, therefore, potential sample bias was reduced. The directory includes both contractors who do business with the Government and those who do not. The random sample also included both. This mixed sample was necessary to examine the investigative questions and analyze the hypotheses.

Sampling Plan

For the purposes of this research effort, it was determined that a 95 percent confidence level should be sought. "A confidence/reliability level of '95 \pm 5%' for survey results is the minimum normally specified and desired

by all professional surveying organizations." (HQ USAF/ACM, 1974:11) A sampling error of \pm five percent was determined to be acceptable in this instance. The following formula, which was recommended by the USAF Sampling Plan (1974), was used:

$$n = \frac{N(z^2) \times p(1-p)}{(N-1)(d^2) + (z^2) \times p(1-p)}$$

Where

n = sample size

N = population size

p = maximum sample size factor (.50)

d = desired tolerance (.05)

z = factor of assurance (1.96) for 95% confidence level

(HQ USAF/ACM 1974:12)

Therefore, the sample size for this study was calculated as follows:

$$n = \frac{26,000 (1.96^2) \times .5(1-.5)}{(26,000-1)(.05^2) + (1.96^2) \times .5(1-.5)}$$

$$n = 379$$

The formula yielded a sample size of 379. A random sample was gathered from the population of approximately 26,000 contractors by using a series of six digit, computer generated random numbers. The first three digits determined

the page number in the directory, the fourth number represented the column from which the respondent was to be selected (one through five indicating the first column and six through nine and zero indicating the second), and the last two numbers determined the location of the contractor in the column which each contain 99 listings.

Survey Development

In order to answer the investigative questions that have been posed and analyze the null hypotheses that have been developed, a telephone survey was conducted using the random sample of contractors in the electronics industry as discussed above.

A telephone survey was chosen because it offers a number of advantages over a mail survey.

A major example of such advantages is the likelihood of getting far better responses to open-ended questions in telephone interviews. With skillful probing by interviewers high-quality responses to such questions are probable, overcoming one of the most nagging limitations of mail questionnaires. Another advantage is the ability to exercise complete control over the order in which the questions are asked. This prevents respondents from scanning the entire questionnaire before settling down to complete it and thereby being predispositioned to answer certain questions in a way they otherwise would not....The interviewer's presence also helps to prevent difficult questions from being skipped and others from being inadvertently missed. Still another advantage of the telephone interview is the ease with which large numbers of screened questions, that is, questions that apply to some respondents but not others, may be handled. The complicated directions required for skipping sections of mail questionnaires and the intimidating bulky appearance often necessitated by such sections are features of which the telephone respondent need not be aware. (Dillman, 1978:205)

For the most part, the Total Design Method (TDM) for phone surveys was employed. This method, developed by Don Dillman, has been found to be very successful in helping researchers obtain excellent results. Part of the success is due to the way that the researcher generates interest in the participants about the subject being studied.

The appeal of TDM is based on convincing people first that a problem exists that is important to a group with which they identify, and second, that their help is needed to find a solution...the researcher is identified as an intermediary between the person asked to contribute to the solution of an important problem and certain steps that might help solve it. Thus the reward to the respondents derives from the feeling that they have done something important to help solve a problem faced by them, their friends, or members of a group including community, state, or nation, whose activities are important to them. (Dillman, 1978:162-163)

In this instance, the group appeal was twofold. The respondents were addressed as taxpayers who would want their tax dollars spent wisely and as current or potential supplier of goods to the DoD with an interest in streamlining the procurement process.

In order to convey the problem and generate this identification, an introductory statement, found in Appendix B, was used at the beginning of each call. This statement explained the purpose of the research, the importance of their participation, and the potential benefit if commercial style contracting was authorized for DoD purchases of commercial items.

To develop the survey, the advice of "experts" in the industry and within the Government was sought. They reviewed the survey and provided feedback. This process involved mailing the initial survey and an explanatory letter to the selected experts and including an envelope for them to return their feedback. The pool of experts included four contractor representatives, two individuals from firms that provide consulting services to the Federal Government, an Air Force Institute of Technology (AFIT) faculty member with expertise in the area of surveying, and two senior DoD contracting officials. The surveys were revised based on the comments and suggestions of these experts. This process helped assure that the final questions used in the survey were clear, easy to answer, comprehensive, and valid. The following is a summary of their comments:

1. Contractor Representatives - None of the contractors who responded offered any suggestions for changes. They found the survey understandable as it appeared in draft form.

2. Consultants - One of the consultants found the draft survey adequate as initially written. The other offered several grammatical changes and the following suggestions for improvement of the survey:

- a. Correction of error in the way the choices were presented in the two questions regarding the dollar value and percent of DoD business done by the respondent's

firm. As initially written, the groups were incorrectly divided. This change was made to the final survey.

b. Proposed the rewording of one of the reasons why firms elect to do business with DoD. The draft wording read "DoD is a major buyer of my firm's products." His suggestion was that this be changed to "DoD is a major buyer in my firm's industry," because the reviewer felt that the original statement was a result of doing business with DoD and not a cause. This suggestion was adopted.

c. Questioned the purpose of the inclusion of "government buyers," "government contract administrators," and "government inspectors" as possible barriers to doing business with DoD. Specifically, his question was, "What about them?" Basically, the purpose was to determine if dealing with any of these categories of DoD employees is perceived as a problem or barrier. In order to clarify this, the barriers were reworded by adding "dealing with" in front of each.

d. Questioned the reason for including "small business classification" and "labor surplus classification" as barriers. He stated, "Not sure what you mean: obviously barriers to some, blessing to others; or do you mean subcontractor's requirements?" In a similar vein, for the survey item regarding the reasons for doing business with DoD, he questioned the meaning of the categories, "set-aside for small disadvantaged businesses" and "set-aside for other

small businesses." These remain in the final survey because they offer the possibility for comparing the differences in the responses of small and large firms to these factors as causes and as barriers.

3. AFIT Faculty Member - This expert also offered comments about the survey instrument. These comments are summarized as follows:

a. Suggested adding a demographic question to ascertain who within DoD the firm has had experience with (which of the military branches and/or Defense Logistics Agency Supply and Support Centers, etc.) This was added to the final version of the instrument.

b. Questioned whether "small woman-owned business" was a legitimate classification to include in the item about the firm's business size classification. It is a classification that is legitimate and was included in the final survey.

c. Suggested (as did another expert) that "Government buyers" was unclear in the question about barriers to doing business with DoD. This was changed to "Dealing with government buyers" in the final version.

d. Suggested adding an open-ended option at the end of each non-demographic question to allow them to add further comments or reasons for their firm's attitude about the DoD contracting process. Such responses were asked for when conducting the phone survey.

4. Senior Government Contracting Officials - Two senior contracting officials reviewed the survey, the Deputy Director, Directorate of Contracting and Production, DESC, and the former Director of that office. They provided the following comments and improvements.

a. Suggested adding an item in the demographic section to determine, from those firms who are doing DoD business, the percent of business that they do with DoD. This suggestion was adopted.

b. Suggested clarifying what is meant by commercial style contracts by explaining that they use the terms and conditions found in the Uniform Commercial Code. This improvement was adopted in the final survey by explaining this at the start of each interview.

c. Suggested adding "Socio-Economic Clauses" as a barrier to doing business with DoD. The final survey included this reason.

d. In the item regarding reasons why firms choose to do business with DoD, suggested changing "KEEP WORKERS EMPLOYED AND BUSY" to "ECONOMIC STABILITY." This suggestion was not adopted because it was felt to be ambiguous.

Instrumentation

The survey instrument developed for this study consisted of ten major questions. Under many of these questions were a number of sub-items, so that there were a

total of 55 survey items. A copy of the survey is included at Appendix B.

The first 20 items (questions 1 through 7) are demographic in nature, providing information about such factors as years in business, current and past DoD contracting experience, business type and size, and amount of business associated with DoD awards. These required yes/no responses or the selection of a categorical answer (i.e., dealer, distributor, manufacturer, manufacturer's representative, or other).

The remaining three questions required the respondents to rate the importance of each item on the following Likert scales:

1. Question 8 consists of 14 sub-items and uses the following scale to investigate reasons why firms elect to do business with DoD:

VERY UNIMPORTANT REASON	SOMEWHAT UNIMPORTANT REASON	SOMEWHAT IMPORTANT REASON	VERY IMPORTANT REASON	NOT A FACTOR	DO NOT KNOW
1	2	3	4	5	8

2. Question 9 consists of four statements about commercial style contracting methods compared to current DoD methods. These used a different scale to rate the degree of agreement or disagreement:

STRONGLY DISAGREE	MILDLY DISAGREE	MILDLY AGREE	STRONGLY AGREE	NO OPINION
1	2	3	4	5

3. The final 17 sub-items make up question 10 and use the following scale to investigate possible barriers to contracting with DoD:

VERY UNIMPORTANT	SOMEWHAT UNIMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	NO OPINION
1	2	3	4	5

Validity of the Research Instrument

In order to develop an instrument with content validity, the questions were reviewed by a number of experts in the field of government and/or commercial contracting, as mentioned above. This process is an accepted method for assuring that the final questions used in the survey are clear, easy to answer, comprehensive, and valid.

In addition, the survey instrument was pretested on 19 contractors currently doing business with the Defense Electronics Supply Center. All the respondents found the survey questions understandable and offered no suggestions for improvements. In addition, their responses were very similar to the responses given by the 379 respondents to the final survey.

Method of Data Analysis

The responses were first marked directly on the survey form during the phone interview. Each respondent's data was coded with his/her unique random number, called the control number, which assures confidentiality during the analysis. The data was then transferred to an optical scanning sheet

(AFIT Form 11C) by filling in the appropriate circle for each answer corresponding to the sub-item number. The data collection forms were processed by AFIT's Virtual Address Extension/Virtual Memory System (VAX/VMS) computer system and evaluated using the Statistical Package for Social Sciences (SPSS) software, Release 3.0.

For most of the analyses, responses were grouped into dichotomous categories. For example, the categories "Mildly Agree" and "Strongly Agree" were grouped into a single category, "Agree" for the purposes of data analysis. In addition, responses of "No Opinion" were generally coded as missing data so that the responses of those with opinions were not skewed during analysis.

Univariate Analysis

Quantitative descriptive design uses statistics (numbers) to describe characteristics of a respondent group. In this study, univariate analysis utilizing frequency distributions was performed on the demographic variables to better understand the composition of the sample. This information could not be employed to analyze the representativeness of the sample because no published information about the population was found that described it along these lines. Univariate analysis was also applied to the dependent variables to evaluate the intensity of responses along the Likert Scales that were employed.

Finally, univariate analysis was used to investigate the general degree of responses to the questions relating to the comparison of current contractual methods versus commercial style methods (survey question 9). These, in turn, were used to explore the investigative questions.

Bivariate Analysis

This research also incorporated the quantitative experimental design, which involved inferential statistics used to test the null hypotheses. Bivariate analysis was used to provide an assessment of the association, if any, which exists between two variables. It is an indication of whether "above average values on one variable tend to be associated with above average values on the other variable; or in other instances whether above average values on one tend to be associated with below average values on another." (Kachigan, 1986:195) These relationships are correlational relationships because "we have no control over the value of the variables possessed by the objects under study." (Kachigan, 1986:196) In correlational investigations, causal interpretations cannot be safely made but patterns of associations can be seen.

Two variables can be interpreted as positively related when high values of one variable are associated with high values of the other variable. A negative or inverse relationship is one where high values of one variable are

associated with low values of the other, and vice versa. Finally, when no systematic association between the values of two variables is found, the variables are considered unrelated or uncorrelated. (Kachigan, 1986:197-198)

Pearson's Product-Moment Correlation Coefficient. One of the statistics used to measure the association of the variables under study was Pearson's product-moment correlation Coefficient, symbolized by r . A value of r close to zero is interpreted as meaning no relationship exists between the two variables. If the value of r approaches +1.0 or -1.0, a strong relationship can be assumed. The following are accepted guidelines for the interpretation of various values of r . (Kidder, 1981: 329)

<u>r</u>	<u>Strength of Relationship</u>
> .70	Very Strong
.50 - .69	Strong
.30 - .49	Moderate
.15 - .29	Weak
< .15	Not Much

Phi. Similar to Pearson's r is the product-moment correlation coefficient, ϕ , which is used as an index of relationship between two dichotomous variables. (Thorndike, 1978:79-80) For example, ϕ was used in this research when analyzing the responses of small and large firms in expressing agreement or disagreement with the barriers to

doing business with DoD. The value of phi is interpreted using the same scale as Pearson's r above.

Chi-Square. Chi-square is another test of significance used to help determine whether a relationship exists between two variables.

This is done by computing the cell frequencies which would be expected if no relationship is present between the variables given the existing row and column totals. The expected cell frequencies are then compared to the actual values...The greater the discrepancies between the expected and actual frequencies, the larger chi-square becomes. If no relationship exists between two variables in the sample under study, then any deviations from the expected values which occur in a table based on randomly selected sample data are due to chance. While some small deviations can be reasonably expected to be due to chance, large deviations, i.e., large values of chi-square, are unlikely. Since we do not know what the actual relationship is in the universe, we interpret small values of chi-square to indicate the absence of a relationship, often referred to as statistical independence. Conversely, a large chi-square implies that a systematic relationship of some sort exists between the variables...By itself, chi-square helps us only to decide whether our variables are independent or related. It does not tell us how strongly they are related. (Nie, 1975:223-224)

Student's t. Student's t, or the t-test, is another statistic used in calculating the probability associated with the null hypothesis, H_0 . It tests to a specific probability level whether or not the difference between two sample means is significant (Nie, 1975:267-268). The student's t can provide this information for dichotomous variables.

In order to calculate the Student's t, respondents are assigned to two groups (i.e., manufacturers and non-

manufacturers) and a comparison between the group means is performed. A value of t is derived with an associated significance level. "A statistically significant finding would indicate that one group mean was different from the other group." (Balian, 1988:219)

When SPSS performs a t -test, it provides pooled-variance and separate-variance estimates, along with the F value used to test homogeneity of variance and its significance level. For the purposes of this study, when the F value is significant at or below a .05 level, the t value of the separate-variance estimate is used. If significance level is greater than .05, the pooled-variance estimate's t value is used.

Summary

In this research, univariate analysis was used to describe the data and, therefore, the randomly selected sample. Univariate analysis was also applied to the dependent variables to evaluate the investigative questions that have been posed. Bivariate analyses were performed to test for relationships or significant differences between the variables. Analysis of the survey data is presented in Chapter IV.

IV. Analysis of Data

Purpose

The purpose of this research was to determine, first, the degree to which contractors in the electronics industry felt DoD could benefit from the adoption of commercial style contracting methods. Secondly, the purpose was to determine the extent to which they viewed current federal contracting methods as barriers to doing business with DoD. Finally, the study was used to determine if any particular contractor characteristics were related to or associated with the responses.

Collection

The survey instrument in Appendix B was administered by telephone to 379 respondents selected randomly from a national directory of electronics firms, The Electronics Industry Telephone Directory published by the Harris Publishing Company. These phone interviews took place during June and July, 1990.

Univariate Analysis of Demographic Variables

The following univariate analyses using frequency distributions were conducted on the demographic variables that were provided by the respondent firms. Missing data is not included in the calculation of the cumulative percentages by SPSS.

Years in Business. The number of years that the respondents have been in business is depicted in Table 1. The majority of the firms (over 70%) have been in business ten years or more and nearly 93% have been in business five years or more. This indicates that the respondent firms have had significant business experience and should be able to provide an accurate assessment of contracting issues.

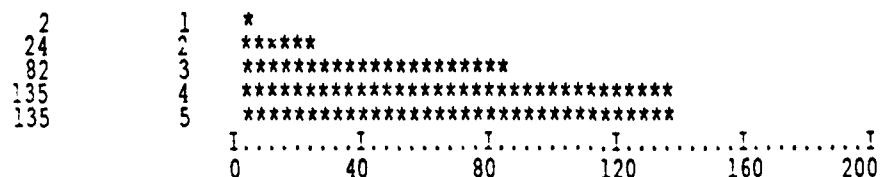
TABLE 1

YEARS THAT THE FIRMS HAVE BEEN IN BUSINESS

YEARS IN BUSINESS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
LESS THAN 2	1	2	.5	.5
2 TO 5	2	24	6.3	6.9
5 TO 10	3	82	21.6	28.6
10 TO 20	4	135	35.6	64.3
MORE THAN 20	5	135	35.6	100.0
MISSING	9	1	.3	
	TOTAL	<u>379</u>	<u>100.0</u>	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES



Currently Doing Business with DoD. Table 2 indicates the distribution of the respondents in terms of whether or not they are currently doing business with DoD. A

substantial percentage of firms fell into each category. This distribution allowed for supportable analyses comparing the responses of one group with the other.

TABLE 2

FIRMS CURRENTLY DOING BUSINESS WITH DoD

CURRENTLY DOING BUSINESS WITH DoD	VALUE	FREQUENCY	PERCENT	CUM PERCENT
YES	1	147	38.8	39.0
NO	2	230	61.0	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT	VALUE	ONE SYMBOL EQUALS APPROX.	OCCURRENCES
<u>147</u>	$\frac{1}{2}$	*****	
<u>230</u>	$\frac{1}{2}$	*****	
		I.....I.....I.....I.....I.....I.....I	
		0 80 160 240 320 400	

Business Size Classification. The frequency distribution represented by Table 3 shows the business size categories under which the respondents fell. The survey further broke down small business into two additional classifications, small disadvantaged and small woman-owned. These classifications were chosen by only five and four firms respectively. For this reason, they were consolidated under the single classification, Small, because they were not large enough for statistically significant analysis.

TABLE 3
RESPONDENTS BY BUSINESS SIZE CLASSIFICATION

BUSINESS SIZE	VALUE	FREQUENCY	PERCENT	CUM PERCENT
SMALL	1	314	82.8	82.8
LARGE	2	65	17.2	100.0
TOTAL		379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES

314	1	*****
65	2	*****
		I.....I.....I.....I.....I.....I.....I
		0 80 160 240 320 400

Univariate Analysis of "Commercial Style Variables" to
Answer Investigative Questions

The following univariate analyses were conducted on the dependent variables representing the respondents' opinions about the differences between current governmental contracting methods and commercial style contracting methods. These analyses are the means of approaching Investigative Questions 1, 2, and 3.

Investigative Question 1 - "Do Contractors View
Government Contracting Methods as More Difficult to
Understand than Commercial Style Contracting Methods?"

The data illustrated in Table 4 represent the degrees of agreement or disagreement expressed by the respondents when

they evaluated the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The majority of the respondents (70.7%) indicated that they strongly agree with this statement, while most of the other respondents (23.2%) mildly agreed that DoD contracts are more difficult to understand. Only 1.1% mildly disagreed and no firms were found to strongly disagree with the statement. Seventeen responded with "no opinion" which represents 4.5% of the respondents. From this, it appears that, as asked in Investigative Question 1, contractors do view government contracting methods as more difficult to understand than commercial style contracting methods.

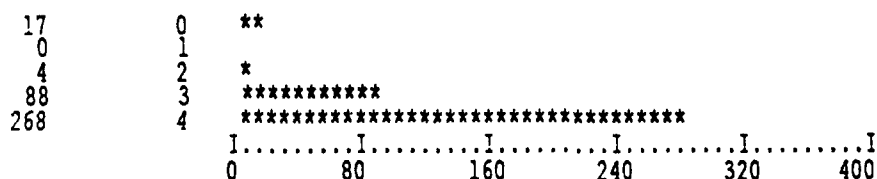
TABLE 4

DEGREE OF AGREEMENT OR DISAGREEMENT WITH THE STATEMENT,
 "CONTRACTORS FIND IT MORE DIFFICULT TO UNDERSTAND DoD
 CONTRACTS AND PURCHASE ORDERS THAN COMMERCIAL EQUIVALENTS."

MORE DIFFICULT TO UNDERSTAND	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	17	4.5	4.5
STRONGLY DISAGREE	1	0	0.0	4.5
MILDLY DISAGREE	2	4	1.1	5.6
MILDLY AGREE	3	88	23.2	28.9
STRONGLY AGREE	4	268	70.7	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



Investigative Question 2 - "Would Contractors be More
 Willing to do Business with DoD if Commercial Style
 Contracting Methods were Used When Purchasing Commercial
 Items?". Degrees of agreement with the statement,
 "Contractors would be more willing to do business with DoD
 if they used commercial style contracts," are represented in
 Table 5. Most of the respondents (71.5%) strongly agreed
 that firms would be more willing. Another substantial
 portion (21.6%) mildly agreed, while only 1.8% mildly

disagreed and no firms strongly disagreed. Seventeen responded with "no opinion", which represents 4.5% of the total. Form the results of this analysis it appears that contractors would be more willing to do business with DoD if commercial style contracting methods were used when purchasing commercial items.

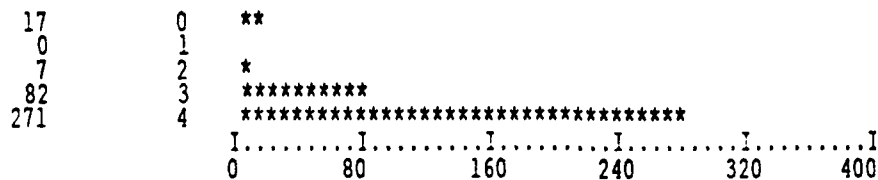
TABLE 5

DEGREE OF AGREEMENT OR DISAGREEMENT WITH THE STATEMENT,
"CONTRACTORS WOULD BE MORE WILLING TO DO BUSINESS
WITH DoD IF THEY USED COMMERCIAL STYLE CONTRACTS."

WILLINGNESS TO DO BUSINESS IF COMMERCIAL				
STYLE CONTRACTS USED	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	17	4.5	4.5
STRONGLY DISAGREE	1	0	0.0	4.5
MILDLY DISAGREE	2	7	1.8	6.4
MILDLY AGREE	3	82	21.6	28.1
STRONGLY AGREE	4	271	71.5	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



Investigative Question 3 - "Would the Total Cost of Commercial Items be Reduced if Commercial Style Contracting Methods were Utilized by DoD?". Table 6 represents the

participants degree of agreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." Slightly less than one-third (30.9%) strongly agreed with the statement, while more than half (51.2%) mildly agreed. Of the remaining respondents, 9.2% mildly disagreed, 2.1% strongly disagreed, and 6.1% had no opinion. A total of 82.1% of the respondents indicated they either strongly or mildly agree. The majority of firms in this sample believe the cost of commercial items would be reduced if commercial style methods were adopted.

TABLE 6

DEGREE OF AGREEMENT OR DISAGREEMENT WITH THE STATEMENT,
"CONTRACTORS WOULD BE ABLE TO QUOTE LOWER PRICES
IF DoD USED COMMERCIAL STYLE CONTRACTS."

LOWER PRICES IF COMMERCIAL STYLE CONTRACTS USED	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	23	6.1	6.1
STRONGLY DISAGREE	1	8	2.1	8.2
MILDLY DISAGREE	2	35	9.2	17.5
MILDLY AGREE	3	194	51.2	69.0
STRONGLY AGREE	4	117	30.9	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT	VALUE	ONE SYMBOL EQUALS APPROX.	OCCURRENCES
23	0	*****	
8	1	**	
35	2	*****	
194	3	*****	
117	4	*****	
		I.....I.....I.....I.....I.....I.....I	
		0 40 80 120 160 200	

Investigative question 3 is further answered by evaluating respondents' degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." These responses are represented in Table 7. Nearly 80% of those surveyed agreed with this statement, either strongly (29.8%) or mildly (49.9%), while only 11.6% mildly disagreed and 1.8% strongly disagreed. In addition, 6.3% had no opinion. Faster delivery is a factor that has a direct bearing on the total cost of supplies. With faster deliveries, it is generally agreed that smaller inventories would be necessary, fewer duplicate reorders would be placed, and less administrative efforts would be required, thus reducing the total cost of supplies. Therefore, as a result of these responses, there is further evidence that contractors believe that the total cost of commercial items would be reduced if commercial style contracting methods were utilized by DoD.

TABLE 7

DEGREE OF AGREEMENT OR DISAGREEMENT WITH THE STATEMENT,
 "CONTRACTORS WOULD BE ABLE TO DELIVER ITEMS FASTER
 IF DoD USED COMMERCIAL STYLE CONTRACTS."

DELIVER FASTER WITH COMMERCIAL STYLE CONTRACTS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	24	6.3	6.4
STRONGLY DISAGREE	1	7	1.8	8.2
MILDLY DISAGREE	2	44	11.6	19.9
MILDLY AGREE	3	189	49.9	70.0
STRONGLY AGREE	4	113	29.8	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

24	0	*****
7	1	**
44	2	*****
189	3	*****
113	4	*****
		I.....I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Univariate Analysis of "Barriers" to Answer Investigative Questions

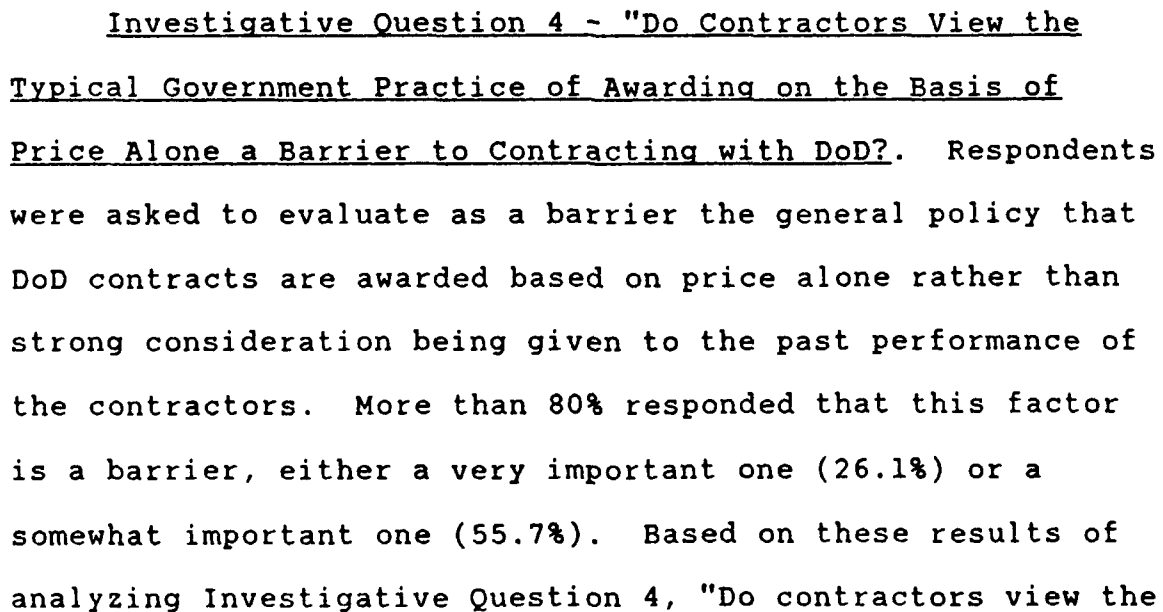
The following univariate analyses were conducted on selected responses representing the opinions of the sample population regarding the degree to which they feel various factors act as barriers to doing business with DoD. The responses range from a very unimportant barrier through a very important barrier and include a "no opinion" response.

Investigative Question 1 - "Do Contractors View Government Contracting Methods as More Difficult to Understand than Commercial Style Contracting Methods?".

The data representing the responses measuring the importance of contract difficulty as a barrier is presented in Table 8. Slightly over 90% of the respondents believe that the difficulty in understanding DoD contracts and purchase orders acts as a barrier to doing business. The responses are very similar to those for the evaluation of the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents" shown earlier in Table 4. And, as indicated earlier, it appears that Investigative Question 1 can be answered by stating that contractors do view government contracting methods as more difficult to understand than commercial style contracting methods. Further, bivariate analysis regarding the correlation of these variables will be presented later in this thesis.

CONTRACTS DIFFICULT TO UNDERSTAND AS A BARRIER TO DOING BUSINESS WITH DoD

HISTOGRAM FREQUENCY



typical government practice of awarding on the basis of price alone a barrier to contracting with DoD," it appears that the opinion is that it is a barrier. The data is presented in Table 9.

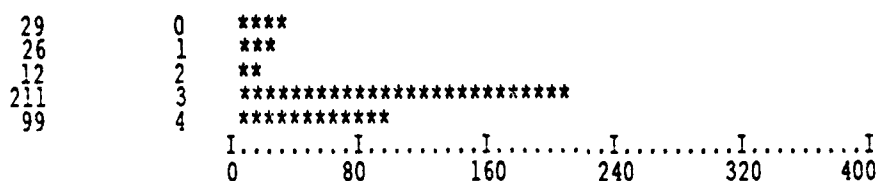
TABLE 9

AWARDS BASED ON PRICE ALONE VERSUS PAST PERFORMANCE
AS A BARRIER TO DOING BUSINESS WITH DoD

BARRIER: PRICE ALONE VERSUS PAST PERFORMANCE	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	29	7.7	7.7
VERY UNIMPORTANT	1	26	6.9	14.6
SOMEWHAT UNIMPORTANT	2	12	3.2	17.8
SOMEWHAT IMPORTANT	3	211	55.7	73.7
VERY IMPORTANT	4	99	26.1	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



In attempting to measure what was designed to be the same variable as presented above in Table 9, respondents were asked to evaluate as a barrier the government's inability to reward good suppliers (those with positive past performance records) with repeat business. As above, over

80% responded that this factor is a barrier. Again, based on these results, it appears that contractors do find this a barrier. Table 10 depicts the frequency distribution of their responses. Bivariate analysis was also performed and is presented later in this paper.

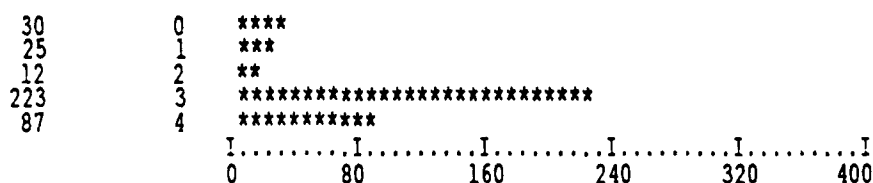
TABLE 10

GOVERNMENT'S INABILITY TO REWARD GOOD SUPPLIERS WITH
REPEAT BUSINESS AS A BARRIER TO DOING BUSINESS WITH DoD

BARRIER: INABILITY TO REWARD GOOD SUPPLIERS WITH REPEAT BUSINESS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	30	7.9	8.0
VERY UNIMPORTANT	1	25	6.6	14.6
SOMEWHAT UNIMPORTANT	2	12	3.2	17.8
SOMEWHAT IMPORTANT	3	223	58.8	76.9
VERY IMPORTANT	4	87	23.0	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



Univariate Analysis of "Barriers"

Frequency distributions were constructed for each of the 17 barriers to doing business with DoD. Contractor responses were based on a Likert scale from a very

while the majority (66.2%) found it to be a very unimportant barrier. These results are summarized in Table 12 below.

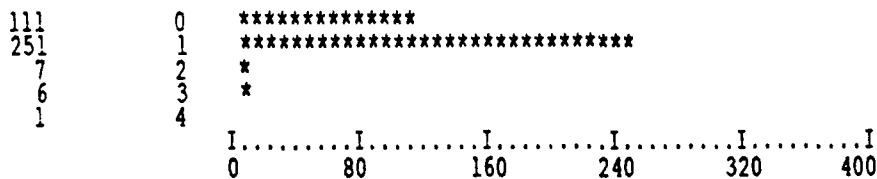
TABLE 12

LABOR SURPLUS AREA SET-ASIDE PROGRAM AS A "BARRIER"

BARRIER: LABOR SURPLUS AREA SET-ASIDE PROGRAM	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	111	29.3	29.5
VERY UNIMPORTANT	1	251	66.2	96.3
SOMEWHAT UNIMPORTANT	2	7	1.8	98.1
SOMEWHAT IMPORTANT	3	6	1.6	99.7
VERY IMPORTANT	4	1	.3	100.0
MISSING	9	3	.8	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



Government Quality Requirements. Many of the respondents (51.7%) reported that government quality requirements were a very unimportant barrier. The results are summarized below in Table 13.

TABLE 13

GOVERNMENT QUALITY REQUIREMENTS AS A "BARRIER"

BARRIER: GOVERNMENT QUALITY REQUIREMENTS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	31	8.2	8.2
VERY UNIMPORTANT	1	196	51.7	60.2
SOMEWHAT UNIMPORTANT	2	45	11.9	72.1
SOMEWHAT IMPORTANT	3	65	17.2	89.4
VERY IMPORTANT	4	40	10.6	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

31	0	*****
196	1	*****
45	2	*****
65	3	*****
40	4	*****
		I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

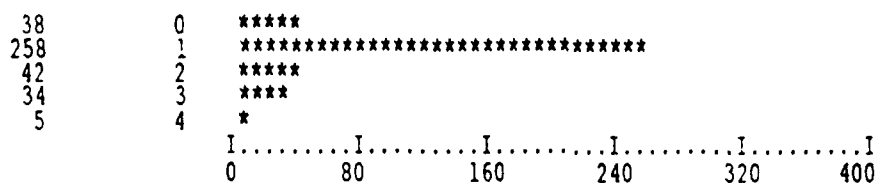
Government Shipping Schedules. When responding to shipping schedules as a barrier, the majority (68.1%) reported that they felt it to be a very unimportant barrier. The results are summarized below in Table 14.

TABLE 14
GOVERNMENT SHIPPING SCHEDULES AS A "BARRIER"

BARRIER: GOVERNMENT SHIPPING SCHEDULES	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	38	10.0	10.1
VERY UNIMPORTANT	1	258	68.1	78.5
SOMEWHAT UNIMPORTANT	2	42	11.1	89.7
SOMEWHAT IMPORTANT	3	34	9.0	98.7
VERY IMPORTANT	4	5	1.3	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES



Military Packaging and Marking Requirements.

Approximately 64% of the respondents felt that military packaging and marking requirements were a barrier. The results are summarized below in Table 15.

MILITARY PACKAGING AND MARKING AS A "BARRIER"

HISTOGRAM FREQUENCY

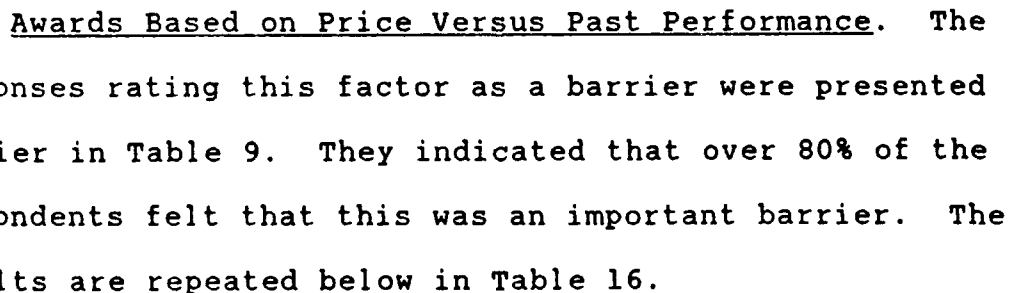


TABLE 16

AWARDS BASED ON PRICE ALONE VERSUS
PAST PERFORMANCE AS A BARRIER

BARRIER: PRICE ALONE VERSUS PAST PERFORMANCE	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	29	7.7	7.7
VERY UNIMPORTANT	1	26	6.9	14.6
SOMEWHAT UNIMPORTANT	2	12	3.2	17.8
SOMEWHAT IMPORTANT	3	211	55.7	73.7
VERY IMPORTANT	4	99	26.1	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES

29	0	****
26	1	***
12	2	**
211	3	*****
99	4	*****
		I.....I.....I.....I.....I.....I
		0 80 160 240 320 400

Contracts Difficult to Understand. Over 90% of the respondents indicated that contract difficulty was a barrier. This data was discussed previously and presented in Table 8 and they are repeated below in Table 17.

CONTRACTS DIFFICULT TO UNDERSTAND AS A BARRIER

HISTOGRAM FREQUENCY

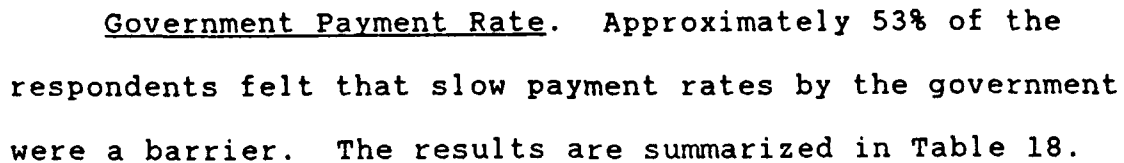


TABLE 18
PAYMENT RATE AS A "BARRIER"

BARRIER: PAYMENT RATE	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	66	17.4	17.5
VERY UNIMPORTANT	1	85	22.4	40.1
SOMEWHAT UNIMPORTANT	2	24	6.3	46.4
SOMEWHAT IMPORTANT	3	148	39.1	85.7
VERY IMPORTANT	4	54	14.2	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT	VALUE	ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES
66	0	*****
85	1	*****
24	2	*****
148	3	*****
54	4	*****
		I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Dealing with Government Buyers. Approximately 45% of the respondents felt that dealing with government buyers was not a barrier and approximately 32% felt that it was. The results are summarized below in Table 19.

BARRIER: DEALING WITH GOVERNMENT BUYERS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	85	22.4	22.5
VERY UNIMPORTANT	1	149	39.3	62.1
SOMEWHAT UNIMPORTANT	2	21	5.5	67.6
SOMEWHAT IMPORTANT	3	91	24.0	91.8
VERY IMPORTANT	4	31	8.2	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

Dealing with Government Contract Administrators.

Approximately 44% of the respondents felt that dealing with government contract administrators was not a barrier and approximately 33% felt that it was. These percentages are nearly identical to the responses about dealing with government buyers. The results are summarized below in Table 20.

TABLE 20
DEALING WITH GOVERNMENT CONTRACT ADMINISTRATORS
AS A "BARRIER"

BARRIER: DEALING WITH GOVERNMENT CONTRACT ADMIN.	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	86	22.7	22.8
VERY UNIMPORTANT	1	148	39.1	62.1
SOMEWHAT UNIMPORTANT	2	19	5.0	67.1
SOMEWHAT IMPORTANT	3	90	23.7	91.0
VERY IMPORTANT	4	34	9.0	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

86	0	*****
148	1	*****
19	2	*****
90	3	*****
34	4	*****
		I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Dealing with Government Inspectors. Respondents rated dealing with government contract administrators as a barrier a little differently than buyers and contract administrators. More of them expressed no opinion and more of them ranked it as a very important barrier. The results are summarized below in Table 21.

TABLE 21

DEALING WITH GOVERNMENT INSPECTORS AS A "BARRIER"

BARRIER: DEALING WITH GOVERNMENT INSPECTORS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	106	28.0	28.1
VERY UNIMPORTANT	1	103	27.2	55.4
SOMEWHAT UNIMPORTANT	2	16	4.2	59.7
SOMEWHAT IMPORTANT	3	70	18.5	78.2
VERY IMPORTANT	4	82	21.6	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

106	0	*****
103	1	*****
16	2	****
70	3	*****
82	4	*****
		I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Insufficient Bid Preparation Time. When responding to insufficient bid preparation time as a barrier, the majority (80.4%) reported that they believed it to be an unimportant barrier. The results are summarized below in Table 22.

INSUFFICIENT BID PREPARATION TIME AS A "BARRIER"

HISTOGRAM FREQUENCY



62

TABLE 23

GOVERNMENT DRAWINGS AND SPECIFICATIONS AS A "BARRIER"

BARRIER: GOVERNMENT DRAWINGS & SPECIFICATIONS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	30	7.9	8.0
VERY UNIMPORTANT	1	170	44.9	53.1
SOMEWHAT UNIMPORTANT	2	53	14.0	67.1
SOMEWHAT IMPORTANT	3	92	24.3	91.5
VERY IMPORTANT	4	32	8.4	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

30	0	*****
170	1	*****
53	2	*****
92	3	*****
32	4	*****
		I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Inability to Reward Good Suppliers with Repeat

Business. Respondents opinions about this factor as a barrier was reported earlier in Table 10. Most of the respondents (81.8%) felt that this was an important barrier. The data is presented again in Table 24.

TABLE 24

INABILITY TO REWARD GOOD SUPPLIERS WITH
REPEAT BUSINESS AS A BARRIER

BARRIER: INABILITY TO REWARD GOOD SUPPLIERS WITH REPEAT BUSINESS	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	30	7.9	8.0
VERY UNIMPORTANT	1	25	6.6	14.6
SOMEWHAT UNIMPORTANT	2	12	3.2	17.8
SOMEWHAT IMPORTANT	3	223	58.8	76.9
VERY IMPORTANT	4	87	23.0	100.0
MISSING	9	2	.5	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES

30	0	****
25	1	***
12	2	**
223	3	*****
87	4	*****

I.....I.....I.....I.....I.....I.....I

0 80 160 240 320 400

Government Cancellation and Termination Policies.

Respondents rated government cancellation and termination policies as an unimportant barrier 49.8% of the time, an important barrier approximately 30%, and approximately 19% expressed no opinion . The results are summarized below in Table 25.

TABLE 25

GOVERNMENT CANCELLATION AND TERMINATION POLICIES
AS A "BARRIER"

BARRIER: CANCELLATION & TERMINATION POLICIES	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	71	18.7	18.9
VERY UNIMPORTANT	1	146	38.5	57.7
SOMEWHAT UNIMPORTANT	2	43	11.3	69.1
SOMEWHAT IMPORTANT	3	90	23.7	93.1
VERY IMPORTANT	4	26	6.9	100.0
MISSING	9	3	.8	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 4.00 OCCURRENCES

71	0	*****
146	1	*****
43	2	*****
90	3	*****
26	4	*****
		I.....I.....I.....I.....I.....I.....I
		0 40 80 120 160 200

Not Knowing What DoD Wants to Buy. Most of the respondents (66%) felt that this was an unimportant barrier. The data is presented in Table 26.

TABLE 26
NOT KNOWING WHAT DoD WANTS TO BUY
AS A BARRIER

BARRIER: NOT KNOWING WHAT DoD WANTS TO BUY	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	38	10.0	10.1
VERY UNIMPORTANT	1	208	55.3	65.4
SOMEWHAT UNIMPORTANT	2	42	11.1	76.6
SOMEWHAT IMPORTANT	3	47	12.5	89.1
VERY IMPORTANT	4	41	10.8	100.0
MISSING	9	3	.8	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES

38	0	*****
208	1	*****
42	2	*****
47	3	*****
41	4	*****
		I.....I.....I.....I.....I.....I.....I
		0 80 160 240 320 400

Socio-Economic Clauses. Most of the respondents (78.1%) felt that the socio-economic clauses were an unimportant barrier. The data is presented in Table 27.

TABLE 27
SOCIO-ECONOMIC CLAUSES AS A BARRIER

BARRIER: SOCIO- ECONOMIC CLAUSES	VALUE	FREQUENCY	PERCENT	CUM PERCENT
NO OPINION	0	50	13.2	13.3
VERY UNIMPORTANT	1	274	72.3	86.2
SOMEWHAT UNIMPORTANT	2	22	5.8	92.0
SOMEWHAT IMPORTANT	3	21	5.5	97.6
VERY IMPORTANT	4	41	10.8	100.0
MISSING	9	3	.8	
	TOTAL	379	100.0	

HISTOGRAM FREQUENCY

COUNT VALUE ONE SYMBOL EQUALS APPROX. 8.00 OCCURRENCES

38	0	*****
208	1	*****
42	2	*****
47	3	*****
41	4	*****
		I.....I.....I.....I.....I.....I.....I
		0 80 160 240 320 400

Summary of Univariate Analysis

The first series of univariate analyses that are described above provided a view of the sample population based on the frequency distributions of their responses to the demographic questions on the survey instrument. It was shown that most of the firms responding (71.2%) have been in business ten years or longer, that slightly more than 60% are not currently doing business with DoD, and that the majority (82.8%) are classified as small businesses.

The next series of analyses were conducted on the dependent variables representing the respondent opinions about the differences between current governmental contracting methods and commercial type contracting methods. The results provided data to evaluate the first three Investigative Questions.

In addition, analyses were conducted on selected responses representing the opinions of the sample regarding the degree to which they feel various factors act as barriers to doing business with DoD. The results provided information used in the evaluation of Investigative Questions 1 and 4.

Finally, univariate analysis was conducted on the opinions of the respondents about the importance of various policies and other factors as barriers to doing business with DoD. The results of these analyses provide information about the attitude of the sample regarding their concerns about contracting with DoD under the current regulations.

Bivariate Analysis

Bivariate analyses were used to test the null hypotheses and are presented below.

Null Hypothesis H₀₁

H₀₁ - There will be no statistically significant relationships between the variable, "Currently Doing Business with DoD," and any of the "Commercial Style Variables."

"Currently Does Business with DoD" by "Difficult to Understand". Contractors were categorized by whether or not they currently do business with DoD and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results are presented in Table 28. The phi value (.12809) is in the lowest category of strength of relationship and indicates that there is not much of a relationship or association between the variables. The small Chi-square value (3.65581) is another indication of the lack of association.

TABLE 28

CROSSTABULATION OF CONTRACTOR STATUS REGARDING
CURRENTLY CONTRACTING WITH DoD BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS FIND IT MORE DIFFICULT
TO UNDERSTAND DoD CONTRACTS AND PURCHASE ORDERS
THAN COMMERCIAL EQUIVALENTS."

		MORE DIFFICULT TO UNDERSTAND		
	COUNT	DIS- AGREE 1	AGREE 2	ROW TOTAL
	ROW % COL % TOT %			
CURRENT				
YES	1	4	142	146
		2.7	97.3	40.8
		100.0	40.1	
		1.1	39.7	
NO	2		212	212
			100.0	59.2
			59.9	
			59.2	
	COLUMN	4	354	358
	TOTAL	1.1	98.9	100.0
<u>CHI-SQUARE</u>		<u>DEGREES OF FREEDOM</u>		<u>SIGNIFICANCE</u>
3.65581		1		0.0559
				<u>PHI</u>
				0.12809

"Currently Does Business with DoD" by "More Willing if Commercial Style". Contractors were again categorized by whether or not they currently do business with DoD and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results are presented in Table 29. The phi value (.08807) is in the lowest category of strength of relationship and again indicates that there is not much of a relationship or association between the variables. The

small chi-square value (1.63313) is further indication of a very weak association.

TABLE 29

CROSSTABULATION OF CONTRACTOR STATUS REGARDING
CURRENTLY CONTRACTING WITH DoD BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE MORE
WILLING TO DO BUSINESS WITH DoD IF THEY USED
COMMERCIAL STYLE CONTRACTS."

		MORE WILLING IF COMMERCIAL STYLE USED		
	COUNT	DIS- AGREE 1	AGREE 2	ROW TOTAL
	ROW % COL % TOT %			
CURRENT				
YES	1	5	141	146
		3.4	96.6	40.8
		71.4	40.2	
		1.4	39.4	
NO	2	2	210	212
		.9	99.1	59.2
		28.6	59.8	
		.6	58.7	
COLUMN		7	351	358
TOTAL		2.0	98.0	100.0
<u>CHI-SQUARE</u>		<u>DEGREES OF FREEDOM</u>		<u>SIGNIFICANCE</u>
1.63313		1		0.2013
				<u>PHI</u>
				0.08807

"Currently Does Business with DoD" by "Able to Quote Lower Prices". For this analysis, respondents were categorized by whether they currently do business with DoD and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found below in Table 30. The

analysis indicates that the correlation coefficient, phi, is of the lowest order at only .09544 and the chi-square is also low at 2.64105.

TABLE 30

CROSSTABULATION OF CONTRACTOR STATUS REGARDING CURRENTLY CONTRACTING WITH DoD BY DEGREE OF AGREEMENT WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE TO QUOTE LOWER PRICES IF DoD USED COMMERCIAL STYLE CONTRACTS."

		LOWER PRICES IF COMMERCIAL STYLE USED		
	COUNT	DIS- AGREE 1	AGREE 2	ROW TOTAL
	ROW % COL % TOT %			
CURRENT				
YES	1	23	121	144
		16.0	84.0	40.9
		53.5	39.2	
		6.5	34.4	
NO	2	20	188	208
		9.6	90.4	59.1
		46.5	60.8	
		5.7	53.4	
	COLUMN	8	35	352
	TOTAL	2.3	9.9	100.0
<u>CHI-SQUARE</u>		<u>DEGREES OF FREEDOM</u>		<u>SIGNIFICANCE</u>
2.64105		1		0.1041
				<u>PHI</u>
				0.09544

"Currently Does Business with DoD" by "Faster Delivery". This analysis categorizes respondents by whether or not they currently do business with DoD and crosstabulates this with their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style

contracts" The results are shown in Table 31. The phi value (.09244) is in the lowest category of strength of relationship and again indicates that there is not much of a relationship between the variables. The small chi-square value (2.49105) is an additional indication of a very weak association.

TABLE 31

CROSSTABULATION OF CONTRACTOR STATUS REGARDING
CURRENTLY CONTRACTING WITH DoD BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE
TO DELIVER ITEMS FASTER IF DoD USED
COMMERCIAL STYLE CONTRACTS."

FASTER DELIVERY IF COMMERCIAL STYLE USED				
	COUNT			
	ROW %			ROW
	COL %	DIS-		TOTAL
	TOT %	AGREE 1	AGREE 2	
CURRENT				
	1	27	120	147
YES		18.4	81.6	41.9
		52.9	40.0	
		7.7	34.2	
	2	24	180	204
NO		11.8	88.2	58.1
		47.1	60.0	
		6.8	51.3	
	COLUMN	7	44	351
	TOTAL	2.0	12.5	100.0
CHI-SQUARE	DEGREES OF FREEDOM	SIGNIFICANCE	PHI	
2.49105	3	0.1145	0.09244	

Summary of Analysis - H_{01} . The correlation coefficient, phi, and chi-square were determined for each variable and they consistently showed a very weak

relationship between the "Commercial Style Variables" and whether a firm was currently doing business with DoD or not. Based on these analyses, the null hypothesis, H_{01} , cannot be rejected.

Null Hypothesis H_{02}

H_{02} - There will be no statistically significant differences between the means of respondents who currently do business with DoD and those who do not in responding to the "Commercial Style Variables."

Means of "Current" Status in Responding to "Difficult to Understand". Student's t was computed for testing whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating their degree of agreement or disagreement with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results are presented below in Table 32. The t -test indicates that there is a statistically significant difference at a .015 level between the means of the responses of firms currently doing business with DoD and those who are not, when expressing their degree of agreement with the statement about contract difficulty. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 32

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
RESPONDING TO "DIFFICULT TO UNDERSTAND"

GROUP 1: CURRENTLY DO BUSINESS WITH DoD

GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 0 2-TAIL PROB: 1.000

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	146	1.9726	0.164	-2.44	356	0.015
GROUP 2	212	2.0000	0.			

Means of "Current" Status in Responding to "Willingness to Do Business". Student's t was used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when expressing their degree of agreement or disagreement with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results are found in Table 33 below. The t-test indicates that there is no statistically significant difference at a .05 level between the means of the responses of firms currently doing business with DoD and those who are not, when expressing their degree of agreement with the statement about willingness to do business. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 33

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
RESPONDING TO "WILLINGNESS TO DO BUSINESS"

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 3.55 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	146	1.9658	0.182	-1.50	201.55	0.134
GROUP 2	212	1.9906	0.097			

Means of "Current" Status in Responding to "Lower Prices if Commercial Style Used". Student's t was again used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found in Table 34 below. The t-test indicates that there is no statistically significant difference at the .05 level between the means of the responses of firms currently doing business with DoD and those who are not, when expressing their degree of agreement with the statement about quoting lower prices if commercial style contracts were used.

Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 34

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
RESPONDING TO "LOWER PRICES IF COMMERCIAL STYLE USED"

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.55 2-TAIL PROB: 0.004

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	144	1.8403	0.368	-1.79	263.17	0.086
GROUP 2	208	1.9038	0.296			

Means of "Current" Status in Responding to "Deliver Faster if Commercial Style Used". Again, Student's t was employed to test for a significant difference between the means of respondents who currently do business with DoD and those who do not, when expressing their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." The results are found below in Table 35. In this instance, the t-test indicates that there is no statistically significant difference at the .05 level between the means of the responses of firms currently doing business with DoD and those who are not, when expressing their degree of agreement with the statement about

delivering items faster. The separate variance estimate is used because the reported F value was significant.

TABLE 35

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN RESPONDING TO "DELIVER FASTER IF COMMERCIAL STYLE USED"

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.45 2-TAIL PROB: 0.015

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	147	1.8163	0.389	-1.68	278.02	0.093
GROUP 2	204	1.8824	0.323			

Summary of Analysis - H_{02} . Based on the significant results found for one of the Student's t tests that were performed on the four "Commercial Style Variables," the null hypothesis may be rejected. In other words, it cannot be claimed that there is no statistically significant difference between the means of respondents who currently do business with DoD and those who do not in responding to one of the four variables, "More Difficult to Understand DoD Contracts and Purchase Orders than Commercial Equivalents." Therefore, H_{02} may be rejected.

Null Hypothesis H₀₃

H₀₃ - There will be no statistically significant relationships between the variable, "Business Size," and any of the "Commercial Style Variables."

"Business Size" by "Difficult to Understand". This analysis involved crosstabulating the respondents' business size by the degree of agreement found with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results of this analysis are presented in Table 36. The analysis indicates that the correlation coefficient, phi, is of the lowest order at only -.02092 and the chi-square value is zero. These again indicate a very low probability of any significant association between the variables.

TABLE 36

CROSSTABULATION OF BUSINESS SIZE BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS FIND IT MORE DIFFICULT
TO UNDERSTAND DoD CONTRACTS AND PURCHASE ORDERS
THAN COMMERCIAL EQUIVALENTS."

MORE DIFFICULT TO UNDERSTAND				
	COUNT			
	ROW %			ROW
	COL %	DIS-		TOTAL
	TOT %	AGREE 1	AGREE 2	
SIZE				
	1	3	294	297
SMALL		1.0	99.0	82.5
		75.0	82.6	
		.8	81.7	
	2	1	62	63
LARGE		1.6	98.4	17.5
		25.0	17.4	
		.3	17.2	
	COLUMN	4	356	360
	TOTAL	1.1	98.9	100.0
<u>CHI-SQUARE</u> <u>DEGREES OF FREEDOM</u> <u>SIGNIFICANCE</u> <u>PHI</u>				
0.				

"Business Size" by "More Willing if Commercial Style".

This analysis also involved crosstabulating. In this case, the comparisons were between the respondents' business size and the degree of agreement found with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results are presented in Table 37. The phi value of only .01191 is in the lowest category of strength of relationship and again indicates that there is not much of a relationship or an association between the variables under consideration. The

zero chi-square value is further indication of a very weak association between the variables.

TABLE 37

CROSSTABULATION OF BUSINESS SIZE BY DEGREE OF AGREEMENT WITH THE STATEMENT, "CONTRACTORS WOULD BE MORE WILLING TO DO BUSINESS WITH DoD IF THEY USED COMMERCIAL STYLE CONTRACTS."

MORE WILLING IF COMMERCIAL STYLE USED				
	COUNT			
	ROW %			ROW
	COL %	DIS-		TOTAL
	TOT %	AGREE 1	AGREE 2	
SIZE				
	1	6	291	297
SMALL		2.0	98.0	82.5
		85.7	82.4	
		1.7	80.8	
	2	1	62	63
LARGE		1.6	98.4	17.5
		14.3	17.6	
		.3	17.2	
	COLUMN	7	353	360
	TOTAL	1.9	98.1	100.0
CHI-SQUARE	DEGREES OF FREEDOM		SIGNIFICANCE	
0.	1		1.0000	
			PHI	
			0.01191	

"Business Size" by "Quote Lower Prices". This analysis categorizes respondents by business size and crosstabulates this with their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found below in Table 38. The analysis indicates that the correlation coefficient, phi, is only -.05307 and the chi-square is also very low at .61758. These statistics

indicate that there is a very low probability of association between the variables.

TABLE 38

CROSSTABULATION OF BUSINESS SIZE BY DEGREE OF AGREEMENT WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE TO QUOTE LOWER PRICES IF DoD USED COMMERCIAL STYLE CONTRACTS."

LOWER PRICES IF COMMERCIAL STYLE USED				
	COUNT			
	ROW %			ROW
	COL %	DIS-		TOTAL
	TOT %	AGREE 1	AGREE 2	
SIZE				
	1	33	258	291
SMALL		11.3	88.7	82.2
		76.7	83.0	
		9.3	72.9	
	2	10	53	63
LARGE		15.9	84.1	17.8
		23.3	17.0	
		2.8	15.0	
	COLUMN	43	311	354
	TOTAL	12.1	87.9	100.0
CHI-SQUARE	DEGREES OF FREEDOM		SIGNIFICANCE	
0.61758	1		0.4319	
			PHI	
			-0.05307	

"Business Size" by "Faster Delivery". This analysis categorizes respondents again by business size and crosstabulates this with their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." The results are shown in Table 39. The analysis indicates that phi is of the lowest order at only -.03994 and the chi-square value is also very low at only

.30552. These again indicate a very low probability of any significant association between the variables.

TABLE 39

CROSSTABULATION OF BUSINESS SIZE BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE
TO DELIVER ITEMS FASTER IF DoD USED
COMMERCIAL STYLE CONTRACTS."

FASTER DELIVERY IF COMMERCIAL STYLE USED				
	COUNT			
	ROW %			ROW
	COL %	DIS-		TOTAL
	TOT %	AGREE 1	AGREE 2	
SIZE				
	1	40	250	290
SMALL		13.8	86.2	82.2
		78.4	82.8	
		11.3	70.8	
	2	11	52	63
LARGE		17.5	82.5	17.8
		21.6	17.2	
		3.1	14.7	
	COLUMN	51	302	353
	TOTAL	14.4	85.6	100.0
CHI-SQUARE				
0.30552				
DEGREES OF FREEDOM				
1				
SIGNIFICANCE				
0.5804				
PHI				
-0.03994				

Summary of Analysis - H_{03} . The correlation coefficient, phi, and chi-square were calculated and they both indicated a very weak relationship between each of the four "Commercial Style Variables" and business size. Based on these analyses, the null hypothesis, that there will be no statistically significant relationships between the variable "Business Size" and any of the "Commercial Style Variables," cannot be rejected.

Null Hypothesis H₀₄

H₀₄ - There will be no statistically significant differences between the means of small firms and those of large firms in responding to the "Commercial Style Variables."

Means of "Size" Status in Responding to "Difficult to Understand". Student's t was computed for testing whether or not there is a significant difference between the means of small firms and those of large firms when indicating their degree of agreement or disagreement with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results are presented below in Table 40. The t-test indicates that there is not a statistically significant difference at a .05 level between the means of the responses of small firms and those of large firms, when expressing their degree of agreement with the statement about contract difficulty. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 40

STUDENT'S *t* FOR COMPARISON OF "SIZE" MEANS WHEN
RESPONDING TO "DIFFICULT TO UNDERSTAND"

GROUP 1: SMALL BUSINESSES
GROUP 2: LARGE BUSINESSES

F-VALUE: 1.58 2-TAIL PROB: 0.013

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				<i>t</i> VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	297	1.9899	0.100	0.34	79.44	0.734
GROUP 2	63	1.9841	0.016			

Means of "Size" Status in Responding to "Willingness to Do Business". Student's *t* was used to test whether or not there is a significant difference between the means of small firms and those of large firms when indicating their degree of agreement or disagreement with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results are found in Table 41 below. The *t*-test indicates that there is no statistically significant difference between the means of the respondents when expressing their degree of agreement with the statement about willingness to do business. Because the reported *F* value was not statistically significant at the .05 level, the pooled variance estimate is the correct estimate to use.

TABLE 41

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
RESPONDING TO "WILLINGNESS TO DO BUSINESS"

GROUP 1: SMALL BUSINESSES

GROUP 2: LARGE BUSINESSES

F-VALUE: 1.25 2-TAIL PROB: 0.288

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	297	1.9798	0.141	-1.23	358	0.822
GROUP 2	63	1.9841	0.126			

Means of "Size" Status in Responding to "Lower Prices if Commercial Style Used". Student's t was again used to test whether or not there is a significant difference between the means of small firms and those of large when expressing their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found in Table 42 below. The t-test indicates that there is no statistically significant difference between the means. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 42

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
RESPONDING TO "LOWER PRICES IF COMMERCIAL STYLE USED"

GROUP 1: SMALL BUSINESSES

GROUP 2: LARGE BUSINESSES

F-VALUE: 1.34 2-TAIL PROB: 0.113

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	291	1.8866	0.318	1.00	352	0.319
GROUP 2	63	1.8413	0.368			

Means of "Size" Status in Responding to "Deliver Faster if Commercial Style Used. Again, Student's t was employed to test for a significant difference between the means of small business firms and those of large when indicating their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." The results are found below in Table 43. In this instance, the t-test indicates that there is no statistically significant difference between the means of the responses of the firms of different sizes when expressing their degree of agreement with the statement about delivering items faster. The pooled variance estimate is used in the table because the reported F value was not significant.

TABLE 43

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
RESPONDING TO "DELIVER FASTER IF COMMERCIAL STYLE USED"

GROUP 1: SMALL BUSINESSES
GROUP 2: LARGE BUSINESSES

F-VALUE: 1.23 2-TAIL PROB: 0.272

	# OF CASES	MEAN	STAND DEV	POLLED VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	290	1.8621	0.345	0.75	351	0.454
GROUP 2	63	1.8254	0.383			

Summary of Analysis - H_{04} . In the analysis of H_{04} , "There will be no statistically significant differences between the means of small firms and those of large firms in responding to the 'Commercial Style Variables'," no t -value was found to be significant as a result of the Student's t tests that were performed on the four "Commercial Style Variables" and the null hypothesis may not be rejected. In other words, it appears that there is not a statistically significant difference between the means of respondents who are classified as small businesses and those who are large in responding to the four "Commercial Style Variables."

Null Hypothesis H_{05}

H_{05} - There will be no statistically significant relationships between the independent variable, "Business Category," and any of the "Commercial Style Variables."

"Business Category" by "Difficult to Understand".

Contractors were categorized for this analysis by business category and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results are presented below in Table 44. The analysis indicates that the correlation coefficient is of the lowest order at only $-.05477$ and the chi-square value is also very low at 0.28772 . These again indicate a very low probability of any significant relationship between the variables.

TABLE 44

CROSSTABULATION OF BUSINESS CATEGORY BY DEGREE OF AGREEMENT WITH THE STATEMENT, "CONTRACTORS FIND IT MORE DIFFICULT TO UNDERSTAND DoD CONTRACTS AND PURCHASE ORDERS THAN COMMERCIAL EQUIVALENTS."

MORE DIFFICULT TO UNDERSTAND				
CATEGORY	COUNT ROW % COL % TOT %	DIS- AGREE 1	AGREE 2	ROW TOTAL
NON- MANUFACTURER	1	1	182	183
		.5	99.5	50.8
		25.0	51.1	
		.3	50.6	
MANUFACTURER	2	3	174	177
		1.7	98.3	49.2
		75.0	48.9	
		.8	48.3	
COLUMN TOTAL		4 1.1	356 98.9	360 100.0
<u>CHI-SQUARE</u>		<u>DEGREES OF FREEDOM</u>		<u>SIGNIFICANCE</u>
0.28772		1		0.5917
				<u>PHI</u>
				-0.05477

"Business Category" by "More Willing if Commercial Style". For this analysis, contractors were categorized by business category (manufacturer or non-manufacturer) and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results of this analysis are presented below in Table 45. The phi value ($-.14319$) is in the lowest category and indicates that there is not much of a relationship between the variables. In addition, the relatively small chi-square value (5.45230) is further indication of a very weak association.

TABLE 45

CROSSTABULATION OF BUSINESS CATEGORY BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE MORE WILLING
TO DO BUSINESS WITH DoD IF THEY USED
COMMERCIAL STYLE CONTRACTS."

MORE WILLING IF COMMERCIAL STYLE USED				
CATEGORY	COUNT ROW % COL % TOT %	DIS- AGREE 1	AGREE 2	ROW TOTAL
NON- MANUFACTURER	1		183	183
			100.0	50.8
			51.8	
			50.8	
MANUFACTURER	2	7	170	177
		4.0	96.0	49.2
		100.0	48.2	
		1.9	47.2	
COLUMN		7	353	360
TOTAL		1.9	98.1	100.0
<hr/>				
<u>CHI-SQUARE</u>	<u>DEGREES OF FREEDOM</u>	<u>SIGNIFICANCE</u>	<u>PHI</u>	
5.45230	1	0.0195	-0.14319	

"Business Category" by "Quote Lower Prices".

Contractors were categorized for this analysis by business category and were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found below in Table 46. This analysis indicates that the correlation coefficient is of the lowest order at only -.04955 and the chi-square value is also very low at .59211. These indicate a low probability of any significant association between the variables.

TABLE 46

CROSSTABULATION OF BUSINESS CATEGORY BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE TO
QUOTE LOWER PRICES IF DoD USED
COMMERCIAL STYLE CONTRACTS."

LOWER PRICES IF COMMERCIAL STYLE USED				
CATEGORY	COUNT ROW % COL % TOT %	DIS- AGREE 1	AGREE 2	ROW TOTAL
NON- MANUFACTURER	1	19	161	180
		10.6	89.4	50.8
		44.2	51.8	
		5.4	45.5	
MANUFACTURER	2	24	150	174
		13.8	86.2	49.2
		55.8	48.2	
		6.8	42.4	
COLUMN		43	311	354
TOTAL		12.1	87.9	100.0
<hr/>				
<u>CHI-SQUARE</u>	<u>DEGREES OF FREEDOM</u>	<u>SIGNIFICANCE</u>	<u>PHI</u>	
0.59211	1	0.4416	-0.04955	

"Business Category" by "Faster Delivery". Contractors were categorized for this analysis by business category and then were crosstabulated with their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts" The results are shown in Table 47. This analysis indicates that phi is very low at only -.12670 and the chi-square value is also relatively low at 4.96868. These results indicate a low probability of any significant relationship between the variables.

TABLE 47

CROSSTABULATION OF BUSINESS CATEGORY BY DEGREE OF AGREEMENT
WITH THE STATEMENT, "CONTRACTORS WOULD BE ABLE
TO DELIVER ITEMS FASTER IF DoD USED
COMMERCIAL STYLE CONTRACTS."

		FASTER DELIVERY IF COMMERCIAL STYLE USED		
CATEGORY	COUNT	DIS- AGREE 1	AGREE 2	ROW TOTAL
	ROW % COL % TOT %			
NON- MANUFACTURER	1	18	161	179
		10.1	89.9	50.7
		35.3	53.3	
		5.1	45.6	
MANUFACTURER	2	33	141	174
		19.0	81.0	49.3
		64.7	46.7	
		9.3	39.9	
COLUMN		51	302	353
TOTAL		14.4	85.6	100.0
CHI-SQUARE		DEGREES OF FREEDOM		SIGNIFICANCE
4.96868		1		0.0258
				PHI
				-0.12670

Summary of Analysis - H_{05} . The analyses indicate that the null hypothesis, H_{05} , cannot be rejected. The analyses consisted of calculating the correlation coefficient, phi, and chi-square, both of which indicated a very weak relationship between the "Commercial Style Variables" and business category. Thus, it appears that there is no significant relationship between category and the "Commercial Style Variables."

Null Hypothesis H₀₆

H₀₆ - There will be no statistically significant differences between the means of manufacturers and non-manufacturers in responding to the "Commercial Style Variables."

Means of "Category" Status in "Responding to Difficult to Understand". Student's t was computed for testing whether or not there is a significant difference between the means of manufacturers and non-manufacturers when indicating their degree of agreement or disagreement with the statement, "Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents." The results are presented below in Table 48. The t-test indicates that there is not a statistically significant difference at a .05 level between the means of the responses of two categories of firms when expressing their degree of agreement with the statement about contract difficulty. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 48

STUDENT'S *t* FOR COMPARISON OF "CATEGORY" MEANS WHEN
RESPONDING TO "DIFFICULT TO UNDERSTAND"

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 3.07 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				<i>t</i> VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	183	1.9945	0.074	1.03	277.81	0.304
GROUP 2	177	1.9831	0.129			

Means of "Category" Status in Responding to
"Willingness to Do Business". Student's *t* was used to test whether or not there is a significant difference between the means of manufacturers and non-manufacturers when indicating their degree of agreement or disagreement with the statement, "Contractors would be more willing to do business with DoD if they used commercial style contracts." The results are found in Table 49 below. The *t*-test indicates that there is a statistically significant difference (probability of .007) between the means of the respondents when expressing their degree of agreement with the statement about willingness to do business. Because the reported *F* value was not statistically significant at the .05 level, the pooled variance estimate is the estimate use in the table below.

TABLE 49

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN
RESPONDING TO "WILLINGNESS TO DO BUSINESS"

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 0. 2-TAIL PROB: 1.000

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	183	2.0000	0.	2.74	358	0.007
GROUP 2	177	1.9605	0.195			

Means of "Category" Status in Responding to "Lower Prices if Commercial Style Used". Student's t was again used to test whether or not there is a significant difference between the means of manufacturers and non-manufacturers when expressing their degree of agreement or disagreement with the statement, "Contractors would be able to quote lower prices if DoD used commercial style contracts." The results are found in Table 50 below. In this instance, the t-test indicates that there is no statistically significant difference between the means. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 50

STUDENT'S *t* FOR COMPARISON OF "CATEGORY" MEANS WHEN
RESPONDING TO "LOWER PRICES IF COMMERCIAL STYLE USED"

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 1.26 2-TAIL PROB: 0.126

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE EST.		
				<i>t</i> VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	180	1.8944	0.308	0.93	352	0.353
GROUP 2	174	1.8621	0.346			

Means of "Category" Status in Responding to "Deliver Faster if Commercial Style Used". Again, Student's *t* was employed to test for a significant difference between the means of manufacturers and non-manufacturers when indicating their degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." The results are found below in Table 51. In this instance, the *t*-test indicates that there is a statistically significant difference between the means of the responses of the firms of different categories when expressing their degree of agreement with the statement about delivering items faster. The separate variance estimate is used in the table because the reported *F* value was significant.

TABLE 51

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN
RESPONDING TO "DELIVER FASTER IF COMMERCIAL STYLE USED"

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 1.70 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	179	1.8994	0.302	2.38	324.37	0.018
GROUP 2	174	1.8103	0.393			

Summary of Analysis - H₀₆. Two of the t-values were found to be significant as a result of the Student's t tests that were performed on the four "Commercial Style Variables." Therefore, the null hypothesis may be rejected. In other words, the statement, there is not a statistically significant difference between the means of respondents who are classified as manufacturers and those who are non-manufacturers in responding to the four "Commercial Style Variables", cannot be supported by the evidence of the t-values for two of the four "Commercial Style Variables."

Null Hypothesis H₀₇

H₀₇ - There will be no statistically significant relationships between the variable, "Currently Doing Business with DoD," and any of the "Barriers to Doing Business with DoD."

"Currently Doing Business" by "Barriers".

Crosstabulations were performed on each pair, providing the correlation coefficient, phi, and chi-square values for each. Although none of the analyses indicated a statistically significant relationship, several of the crosstabulations are provided below.

"Currently Doing Business" by "Quality Requirements".

For this analysis, contractors were categorized by whether they currently do business with DoD and then were crosstabulated with their responses to the rating of government quality requirements as a barrier to contracting with DoD. The results are presented below in Table 52. The analysis provided a phi of .04446 and a chi-square of only .49788, both of which indicate a lack of a statistically significant relationship between the responses about quality requirements as a barrier and whether a firm is currently doing business with DoD.

TABLE 52

CROSSTABULATION OF "CURRENTLY DOING BUSINESS" STATUS
BY "GOVERNMENT QUALITY REQUIREMENTS" AS A BARRIER

GOVERNMENT QUALITY REQUIREMENTS				
	COUNT			
	ROW %	UNIMPORT	IMPORT	ROW
	COL %	BARRIER	BARRIER	TOTAL
	TOT %	1	2	
CURRENT				
	1	97	47	144
YES		67.4	32.6	41.9
		40.4	45.2	
		28.2	13.7	
	2	143	57	200
NO		71.5	28.5	58.1
		59.6	54.8	
		41.6	16.6	
	COLUMN	240	104	344
	TOTAL	69.8	30.2	100.0
CHI-SQUARE	DEGREES OF FREEDOM	SIGNIFICANCE		PHI
0.49788	1	0.4804		0.04446

"Currently Doing Business" by "Slow Payments".

Contractors were again categorized by whether they currently do business with DoD and then were crosstabulated with their responses to their rating of government's slowness of payments as a barrier to contracting with DoD. The results are presented below in Table 53. The analysis provided a low correlation coefficient (.08024) and chi-square value (1.67122), which shows a lack of a statistically significant relationship between the responses about government payment rate as a barrier and whether a firm is currently doing business with DoD.

TABLE 53

CROSSTABULATION OF "CURRENTLY DOING BUSINESS" STATUS
BY "GOVERNMENT'S SLOW PAYMENT RATE" AS A BARRIER

		GOVERNMENT SLOW TO PAY		
	COUNT	UNIMPORT	IMPORT	ROW
	ROW %	BARRIER	BARRIER	
	COL %			TOTAL
	TOT %	1	2	
CURRENT				
YES	1	53	81	134
		39.6	60.4	43.2
		48.6	40.3	
		17.1	26.1	
NO	2	56	120	176
		31.8	68.2	56.8
		51.4	59.7	
		18.1	38.7	
COLUMN		109	201	310
TOTAL		35.2	64.8	100.0
CHI-SQUARE		DEGREES OF FREEDOM		SIGNIFICANCE
1.67122		1		0.1961
				PHI
				0.08024

"Currently Doing Business" by "Contracts Too Difficult". Contractors were categorized for this analysis by whether or not they were currently doing business with DoD and then were crosstabulated with their responses about contract difficulty as a barrier to doing business with DoD. The results are presented below in Table 54. The analysis indicates that the correlation coefficient is of the lowest order at only .09659 and the chi-square value is also very low at 2.50048. These again indicate a very low probability of any significant relationship between the variables.

TABLE 54

CROSSTABULATION OF "CURRENTLY DOING BUSINESS" STATUS
BY "CONTRACTS TOO DIFFICULT" AS A BARRIER

		CONTRACTS TOO DIFFICULT		
	COUNT	UNIMPORT	IMPORT	ROW
	ROW %	BARRIER	BARRIER	
	COL %			TOTAL
	TOT %	1	2	
CURRENT				
YES	1	11	134	145
		7.6	92.4	40.5
		61.1	39.4	
		3.1	37.4	
NO	2	7	206	213
		3.3	96.7	59.5
		38.9	60.6	
		2.0	57.5	
COLUMN		18	340	358
TOTAL		5.0	95.0	100.0
CHI-SQUARE		DEGREES OF FREEDOM		SIGNIFICANCE
2.50048		1		0.1138
				PHI
				0.09659

Summary of Analysis - H_{07} . For this hypothesis, two statistical test were evaluated, the product-moment correlation coefficient, phi, and chi-square. Neither of these indicated a statistically significant relationship between any of the barriers to doing business with DoD and whether a firm was currently doing business with DoD or not. Based on these analyses, the null hypothesis, H_{07} , cannot be rejected.

Null Hypothesis H_{08}

H_{08} - There will be no statistically significant differences between the means of respondents who currently

do business with DoD and those who do not in responding to any of the "Barriers to Doing Business with DoD."

Means of "Current" Status in Responding to "Small Business Set-Aside Program as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of the small business set-aside program as a barrier to doing business with DoD. The results are presented below in Table 55. The t -test indicates that there is a statistically significant difference at a .005 level between the means of the responses of firms currently doing business with DoD and those who are not, when expressing their opinion about this barrier. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 55

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING THE SMALL BUSINESS SET-ASIDE PROGRAM AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 2.09 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	140	1.1786	0.384	2.72	230.70	0.007
GROUP 2	197	1.0761	0.266			

Means of "Current" Status in Responding to the "Policy of Awarding on Basis of Price Alone versus Past Performance as a Barrier". Student's t was used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of the policy of awarding contracts on the basis of price alone versus past performance as a barrier to doing business with DoD. The results are found in Table 56 below. The t-test indicates that there is a statistically significant difference between the means of the responses of firms currently doing business with DoD and those who are not, when indicating the importance of this factor as a barrier. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 56

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING AWARDS ON PRICE VERSUS PAST PERFORMANCE
AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.83 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	141	1.8440	0.364	-2.17	241.39	0.031
GROUP 2	205	1.9220	0.269			

Means of "Current" Status in Responding to "Dealing with Government Buyers as a Barrier". Student's t was again used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of the dealing with government buyers as a barrier to doing business with DoD. The results are found in Table 57 below. The t-test indicates that there is a statistically significant difference between the means of the responses of firms currently doing business with DoD and those who are not, when evaluating this factor as a barrier. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 57

STUDENT'S *t* FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING DEALING WITH GOVERNMENT BUYERS AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.11 2-TAIL PROB: 0.540

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	139	1.4892	0.043	2.52	288	0.012
GROUP 2	151	1.3444	0.477			

Means of "Current" Status in Responding to "Dealing
with Government Contract Administrators as a Barrier".

Student's *t* was used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of dealing with government contract administrators as a barrier to doing business with DoD. The results are found in Table 58 below. The *t*-test indicates that there is a statistically significant difference between the means of the responses of firms currently doing business with DoD and those who are not, when indicating the importance of this factor as a barrier. Because the reported *F* value was not significant, the pooled variance estimate is displayed in the table.

TABLE 58

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING DEALING WITH GOVERNMENT CONTRACT ADMINISTRATORS
AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD

GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.10 2-TAIL PROB: 0.574

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	138	1.5000	0.502	2.58	287	0.010
GROUP 2	151	1.3510	0.479			

Means of "Current" Status in Responding to "Insuffi-
cient Bid Preparation Time as a Barrier". Student's t was again used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of insufficient bid preparation time as a barrier to doing business with DoD. The results are found in Table 59 below. The t-test indicates that there is a statistically significant difference between the means of the responses of firms currently doing business with DoD and those who are not, when evaluating this factor as a barrier. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 59

STUDENT'S *t* FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING INSUFFICIENT BID PREPARATION TIME AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 1.57 2-TAIL PROB: 0.004

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				<i>t</i> VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	143	1.2448	0.431	2.45	266.96	0.015
GROUP 2	183	1.1366	0.344			

Means of "Current" Status in Responding to "Inability to Reward Good Contractors with Repeat Business as a Barrier". Student's *t* was again used to test whether or not there is a significant difference between the means of respondents who currently do business with DoD and those who do not, when indicating the importance of the inability to reward good contractors with repeat business as a barrier to doing business with DoD. The results are found in Table 60 below. The *t*-test indicates that there is a statistically significant difference between the means of the responses of firms currently doing business with DoD and those who are not, when evaluating this factor as a barrier. Because the reported *F* value was significant, the separate variance estimate is displayed in the table.

TABLE 60

STUDENT'S t FOR COMPARISON OF "CURRENT" MEANS WHEN
EVALUATING INABILITY TO REWARD GOOD CONTRACTORS WITH
REPEAT BUSINESS AS A BARRIER

GROUP 1: CURRENTLY DO BUSINESS WITH DoD
GROUP 2: CURRENTLY DO NOT DO BUSINESS WITH DoD

F-VALUE: 2.64 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	141	1.8227	0.383	-3.27	212.83	0.001
GROUP 2	204	1.9412	0.236			

Summary of Analysis - H_{08} . Based on the significant results found for six of the Student's t tests that were performed, the null hypothesis may be rejected. In other words, it cannot be claimed that there is no statistically significant difference between the means of respondents who currently do business with DoD and those who do not in responding to some of the barrier to doing business with DoD. Therefore, H_{08} may be rejected.

Null Hypothesis H_{09}

H_{09} - There will be no statistically significant relationships between the variable, "Business Size," and any of the "Barriers to Doing Business with DoD."

"Business Size" by "Barriers". Crosstabulations were performed on each of the 17 pairs of variables, providing

the correlation coefficient, phi, and chi-square values for each pair. Only one of the analyses indicated a statistically significant relationship and this was for the barrier "Small Business Set-Asides". An analysis of the crosstabulation for business size by the responses rating the small business set-aside program as a barrier is provided below.

"Business Size" by "Small Business Set-Aside Program".

When these variables were crosstabulated, an association was indicated at a .0000 level of significance. The correlation coefficient was in the strong range, at .56226, and the chi-square statistic was also very large (102.59193), implying a systematic relationship between the variables. The data is presented below in Table 61.

TABLE 61

CROSSTABULATION OF BUSINESS SIZE BY SMALL BUSINESS
SET-ASIDE PROGRAM AS A BARRIER

SMALL BUSINESS SET-ASIDE PROGRAM				
	COUNT	UNIMPORT	IMPORT	ROW
	ROW %	BARRIER	BARRIER	TOTAL
	COL %	1	2	
SIZE	TOT %			
SMALL	1	271	10	281
		96.4	3.6	82.9
		90.6	25.0	
		79.9	2.9	
LARGE	2	28	30	50
		48.3	51.7	17.1
		9.4	75.0	
		8.3	8.8	
COLUMN		299	40	339
TOTAL		88.2	11.8	100.0
<hr/>				
<u>CHI-SQUARE</u>	<u>DEGREES OF FREEDOM</u>	<u>SIGNIFICANCE</u>	<u>PHI</u>	
102.59193	1	0.0000	0.56226	

Summary of Analysis - H_{0g} . Two statistical tests were evaluated for this hypothesis, the product-moment correlation coefficient, phi, and chi-square. For all but one of the variables, these indicated that a statistically significant relationship does not exist between the any of the barriers to doing business with DoD and a firm's size. A strong relationship was indicated by both statistics between the size of the business and the responses rating the small business set-aside program as a barrier. Based on these analyses, the null hypothesis, "there will be no statistically significant relationships between the

variable, "Business Size," and any of the "Barriers to Doing Business with DoD," can be rejected.

Null Hypothesis H_{010}

H_{010} - There will be no statistically significant differences between the means of small firms and those of large firms in responding to any of the "Barriers to Doing Business with DoD."

Means of "Size" Status in Responding to "Small Business Set-Aside Program as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of small firms and those of large firms, when indicating the importance of the small business set-aside program as a barrier to doing business with DoD. The results are presented below in Table 62. The t -test indicates that there is a statistically significant difference at a .000 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 62

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
EVALUATING THE SMALL BUSINESS SET-ASIDE PROGRAM AS A BARRIER

GROUP 1: SMALL FIRMS

GROUP 2: LARGE FIRMS

F-VALUE: 7.38 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	281	1.0356	0.011	-7.18	60.22	0.000
GROUP 2	58	1.5172	0.504			

Means of "Size" Status in Responding to "Dealing with Government Buyers as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of small firms and those of large, when indicating the importance of dealing with government buyers as a barrier to doing business with DoD. The results are presented below in Table 63. The t-test indicates that there is a statistically significant difference at a .037 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 63

STUDENT'S *t* FOR COMPARISON OF "SIZE" MEANS WHEN
EVALUATING DEALING WITH GOVERNMENT BUYERS AS A BARRIER

GROUP 1: SMALL FIRMS

GROUP 2: LARGE FIRMS

F-VALUE: 1.06 2-TAIL PROB: 0.763

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				<i>t</i> VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	241	1.3900	0.489	-2.10	290	0.037
GROUP 2	51	1.5490	0.503			

Means of "Size" Status in Responding to "Dealing with
Government Contract Administrators as a Barrier".

Student's *t* was computed for testing whether or not there is a significant difference between the means of small firms and those of large firms, when indicating the importance of dealing with government contract administrators as a barrier to doing business with DoD. The results are presented below in Table 64. The *t*-test indicates that there is a statistically significant difference at a .010 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported *F* value was not significant, the pooled variance estimate is displayed in the table.

TABLE 64

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
EVALUATING DEALING WITH GOVERNMENT CONTRACT ADMINISTRATORS
AS A BARRIER

GROUP 1: SMALL FIRMS

GROUP 2: LARGE FIRMS

F-VALUE: 1.03 2-TAIL PROB: 0.846

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	240	1.3917	0.489	-2.60	289	0.010
GROUP 2	51	1.5882	0.497			

Means of "Size" Status in Responding to "Insufficient Bid Preparation Time as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of small firms and those large, when indicating the importance of insufficient bid preparation time as a barrier to doing business with DoD. The results are presented below in Table 65. The t-test indicates that there is a statistically significant difference at a .021 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported F-value was significant, the separate variance estimate is displayed in the table.

TABLE 65

STUDENT'S t FOR COMPARISON OF "SIZE" MEANS WHEN
EVALUATING INSUFFICIENT BID PREPARATION TIME AS A BARRIER

GROUP 1: SMALL FIRMS
GROUP 2: LARGE FIRMS

F-VALUE: 1.65 2-TAIL PROB: 0.010

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	269	1.1561	0.364	-2.37	72.64	0.021
GROUP 2	58	1.3103	0.467			

Summary of Analysis - H_{010} . Based on the significant results found for 4 of the Student's t tests that were performed, the null hypothesis may be rejected. In other words, it cannot be claimed that there is no statistically significant difference between the means of small firms and those of large firms in responding to some of the barrier to doing business with DoD. Therefore, H_{010} may be rejected.

Null Hypothesis H_{011}

H_{011} - There will be no statistically significant relationships between the independent variable, "Business Category," and any of the "Barriers to Doing Business with DoD."

"Business Category" by "Barriers". Crosstabulations were performed on each pair of variables, providing the correlation coefficient, phi, and chi-square values for

each. None of these analyses indicated a statistically significant relationship.

Summary of Analysis - H_{011} . Two statistical tests, correlation coefficient, phi, and chi-square were performed to analyze this hypothesis. For all of the variables, the phi and chi-square values indicated that a statistically significant relationship does not exist between the any of the barriers to doing business with DoD and a firm's category. Based on these analyses, there is not sufficient evidence to reject the null hypothesis, H_{011} , there are no statistically significant relationships between the independent variable, "Business Category," and any of the "Barriers to Doing Business with DoD."

Null Hypothesis H_{012}

H_{012} - There will be no statistically significant differences between the means of manufacturers and those of non-manufacturers in responding to any of the "Barriers to Doing Business with DoD."

Means of "Category" Status in Responding to "Small Business Set-Aside Program as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of manufacturers and those of non-manufacturers, when indicating the importance of the small business set-aside program as a barrier to doing business with DoD. The results are presented in Table 66.

The t-test indicates that there is a statistically significant difference at a .006 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported F value was significant, the separate variance estimate is displayed in Table 66.

TABLE 66

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN EVALUATING THE SMALL BUSINESS SET-ASIDE PROGRAM AS A BARRIER

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 2.13 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	171	1.0702	0.256	-2.77	294.99	0.006
GROUP 2	168	1.1667	0.374			

Means of "Category" Status in Responding to "Government Quality Requirements as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of manufacturers and those of non-manufacturers, when indicating the importance of government quality requirements as a barrier to doing business with DoD. The results are presented in Table 67 below. The t-test indicates that there is a statistically significant difference at a .009 level between the means of

the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 67

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN
EVALUATING GOVERNMENT QUALITY REQUIREMENTS AS A BARRIER

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 1.28 2-TAIL PROB: 0.106

	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	172	1.2384	0.427	-2.64	344	0.009
GROUP 2	174	1.3678	0.484			

Means of "Category" Status in Responding to "Government Shipping Schedules as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of manufacturers and those of non-manufacturers, when indicating the importance of government shipping schedules as a barrier to doing business with DoD. The results are presented below in Table 68. The t-test indicates that there is a statistically significant difference at a .028 level between the means of the responses of small firms and those of large firms, when expressing their opinion about this barrier. Because the

reported F value was significant, the separate variance estimate is displayed in the table.

TABLE 68

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN
EVALUATING GOVERNMENT SHIPPING SCHEDULES AS A BARRIER

GROUP 1: NON-MANUFACTURERS

GROUP 2: MANUFACTURERS

F-VALUE: 1.82 2-TAIL PROB: 0.000

	# OF CASES	MEAN	STAND DEV	SEPARATE VARIANCE EST.		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	170	1.1529	0.361	2.20	311.48	0.028
GROUP 2	169	1.0769	0.267			

Means of "Category" Status in Responding to "Government Cancellation/Termination Policies as a Barrier". Student's t was computed for testing whether or not there is a significant difference between the means of manufacturers and those of non-manufacturers, when indicating the importance of government cancellation/termination policies as a barrier to doing business with DoD. The results are presented below in Table 69. The t-test indicates that there is a statistically significant difference at a .030 level between the means of the responses of small and of large firms, when expressing their opinion about this barrier. Because the reported F value was not significant, the pooled variance estimate is displayed in the table.

TABLE 69

STUDENT'S t FOR COMPARISON OF "CATEGORY" MEANS WHEN
EVALUATING GOVERNMENT CANCELLATION/TERMINATION POLICIES
AS A BARRIER

GROUP 1: NON-MANUFACTURERS						
GROUP 2: MANUFACTURERS						
F-VALUE: 1.13 2-TAIL PROB: 0.445						
	# OF CASES	MEAN	STAND DEV	POOLED VARIANCE ESTIMATE		
				t VALUE	DEGREES FREEDOM	2-TAIL PROB
GROUP 1	152	1.4408	0.498	2.18	303	0.030
GROUP 2	153	1.3203	0.468			

Summary of Analysis - H_{012} . Based on the significant results found for four of the Student's t tests that were performed, the null hypothesis may be rejected. In other words, it cannot be claimed that there is no statistically significant difference between the means of manufacturers and those of non-manufacturers in responding to some of the barrier to doing business with DoD. Therefore, H_{012} may be rejected.

Null Hypothesis - H_{013}

H_{013} - There will be no statistically significant relationships between any of the "Barriers to Doing Business with DoD."

Correlations Between "Barriers". Pearson's product-moment correlation coefficient was calculated for each pair

of barriers. One of these pairings produced a very strong correlation ($>.70$), two produced strong correlations (.50 - .69), and four indicated a moderate strength of association (.30 - .49). Table 70, below, summarizes these findings.

TABLE 70

PEARSON'S CORRELATION COEFFICIENTS FOR PAIRS OF "BARRIERS"

VERY STRONG ASSOCIATION:

DEALING WITH BUYERS	.9791
WITH	N (291)
DEALING WITH CONTRACT ADMINISTRATORS	SIG .000

STRONG ASSOCIATION:

DEALING WITH BUYERS	.6360
WITH	N (264)
DEALING WITH INSPECTORS	SIG .000

DEALING WITH CONTRACT ADMINISTRATORS	.6222
WITH	N (263)
DEALING WITH INSPECTORS	SIG .000

MODERATE ASSOCIATION:

CANCELLATION POLICIES	.3758
WITH	N (294)
KNOWING WHAT DoD WANTS TO BUY	SIG .000

DRAWINGS AND SPECIFICATIONS	.3256
WITH	N (328)
KNOWING WHAT DoD WANTS TO BUY	SIG .000

DEALING WITH CONTRACT ADMINISTRATORS	.3147
WITH	N (277)
KNOWING WHAT DoD WANTS TO BUY	SIG .000

DEALING WITH BUYERS	.3077
WITH	N (278)
KNOWING WHAT DoD WANTS TO BUY	SIG .000

Summary of Analysis - H₀₁₃. Statistically significant relationships were found by computing Pearson's r in seven of the pairing. Based on this analysis, the null hypothesis, that there will be no statistically significant relationships between any of the "Barriers to Doing Business with DoD," may be rejected.

Data Analysis Summary

Univariate analysis utilizing frequency distributions was performed on the demographic variables to better understand the composition of the population. Univariate analysis was also applied to the dependent variables to evaluate the intensity of responses along the Likert Scales that were employed. In addition, univariate analysis was used to investigate the general degree of responses to the questions relating to the comparison of current contractual methods versus commercial style methods (survey question 9). These, in turn, were used to explore the investigative questions. Finally, univariate analysis was used to evaluate the opinions of the respondents regarding the importance of the 17 barriers to doing business with DoD.

This study also relied on quantitative analysis, which involved inferential statistics used to test the 13 null hypotheses. Bivariate analysis was used to provide an assessment of the association, if any, which exists between many of the variables that were studied.

V. Conclusions and Recommendations

Conclusions

In this section, the results of the data analysis will be summarized and conclusions will be drawn about the four investigative questions and the 13 null hypotheses.

Investigative Questions

Data analysis for this research included examination of the investigative questions which relate to the study's objectives. The following conclusions have been drawn as a result of analyzing the investigative questions.

Investigative Question 1. This first questions asked, "Do contractors view government contracting methods as more difficult to understand than commercial style contracting methods?" Nearly 94% of the respondents indicated that they strongly agreed or mildly agreed with the statement that DoD contracts are more difficult to understand. From this it appears that contractors do view government contracting methods as more difficult to understand than commercial style contracting methods.

The data representing the responses measuring the importance of contract difficulty as a barrier also was analyzed to answer this question. Slightly over 90% of the respondents believed that the difficulty in understanding DoD contracts and purchase orders acts as a barrier to doing

business. The responses here were very similar to those for the evaluation of the statement above and provide further evidence that contractors do view government contracting methods as more difficult to understand than commercial style contracting methods.

Investigative Question 2. The second investigative question asked, "Would contractors be more willing to do business with DoD if commercial style contracting methods were used when purchasing commercial items?" The majority of the respondents (93.1%) either strongly or mildly agreed that firms would be more willing. Thus, it appears that contractors would be more willing to do business with DoD if commercial style contracting methods were used when purchasing commercial items.

Investigative Question 3. This question asked, "Would the total cost of commercial items be reduced if commercial style contracting methods were utilized by DoD?" With 82.1% of the respondents indicating that they either strongly or mildly agree, firms in this sample believe that the cost of commercial items would be reduced if commercial style contracting methods were utilized by DoD. This conclusion is strengthened by the results of analyzing the respondents' degree of agreement or disagreement with the statement, "Contractors would be able to deliver items faster if DoD used commercial style contracts." Nearly 80% of those surveyed agreed with this statement, either strongly or

mildly that they believed they could. Because faster delivery is a factor that has a direct bearing on the total cost of supplies, there is further evidence that contractors believe that the total cost of commercial items would be reduced if commercial style contracting methods were utilized by DoD.

Investigative Question 4. This last investigative question asks, "Do contractors view the typical government practice of awarding on the basis of price alone a barrier to contracting with DoD?" More than 80% responded that this factor is an important barrier. Based on these results, it appears that contractors do believe that this is a barrier to doing business with DoD.

In attempting to measure what was designed to be the same variable as described above, respondents were asked to evaluate as a barrier the government's inability to reward good suppliers (those with strong past performance records) with repeat business. As above, over 80% responded that this factor is an important barrier. Again, based on these results, it appears that contractors do find this a barrier.

Null Hypotheses

The 13 hypotheses were analyzed in Chapter IV using appropriate statistical tools. The conclusions are presented below.

Null Hypotheses - Commercial Style Contracting

The first two null hypotheses examine the relationships between whether or not a firm does business currently with DoD and the "Commercial Style Variables." The results of the analysis of the first found that the perceptions of contractors about the "Commercial Style Variables" do not seem to be related to whether or not they currently do business with DoD.

However, the analysis of the second hypothesis found that, for the variable about DoD contracts being more difficult to understand, contractors who currently do not do business with DoD felt, on the average, more strongly that this was a barrier. This seemed to indicate that firms not currently doing business with DoD are intimidated by the paperwork and red tape to a greater degree than firms currently doing business with DoD. Simplification efforts, if well publicized, could change this perception and help attract more firms to the DoD contracting arena.

The next two hypotheses, H_{03} and H_{04} , examined the responses of both large and small firms in regard to the "Commercial Style Variables." Analysis of the third null hypothesis indicated that the perception of contractors did not seem to be related to their size.

In examining the fourth hypothesis, it was found that neither large nor small firms, on the average, felt

significantly different about the "Commercial Style Variables" as barriers.

The fifth and sixth null hypotheses analyzed the responses of firms by category (manufacturer or non-manufacturer) in regard to the "Commercial Style Variables." Analysis of the null hypothesis, H_{05} , indicated that the contractors' perceptions of the variables are not related to the business category.

When examining the differences in the means for the sixth hypothesis, it was found that there were differences in the average responses of manufacturers and non-manufacturers. Non-manufacturers felt more strongly, on the average, that delivery could be faster and that there would be more willingness to do business if commercial style practices were adopted.

Null Hypotheses - Barriers to Doing Business with DoD

The next two hypotheses analyzed the responses of firms currently doing business with DoD and those who do not in regard to the "Barriers." The analysis of the seventh null hypothesis indicated that there was no statistically significant relationship between the responses of the firms in the two groups and the barriers.

When analyzing the eighth hypothesis, it was found that there were statistically significant differences between the means of respondents who currently do business with DoD and

those who do not in responding to some of the barriers. Specifically, firms currently doing business with DoD, on the average, felt more strongly that the following were barriers: the small business set-aside program, dealing with government buyers, dealing with government contract administrators, and insufficient time to prepare bids or offers. This may mean that experience has a bearing on the perceptions about these barriers.

Firms not currently doing business with DoD, on the average, felt more strongly that the following were barriers: awards made on price alone versus past performance and government's inability to reward good suppliers with repeat business. The opinions of contractors not currently doing business with DoD indicate that changes in our policies of awarding based on quality and delivery as well as price need to be well publicized so that these contractors are aware of them.

Hypotheses nine and ten analyzed the responses of large and small firms in regard to the "Barriers." Analysis of H_{09} found a strong relationship between business size and the rating of the small business set-aside program as a barrier. Of the small firms, 96.4% rated it an unimportant barrier. Large firms were almost evenly split in their responses.

The tenth hypothesis found that, on the average, small firms felt that the set-aside program was a less important

barrier than did large firms. The findings about small firms are not surprising since they directly benefit from the small business set-aside program and it would follow that they would not feel as strongly about this being a barrier.

The analysis of H₀₁₀ also indicated that large firms, on the average, felt dealing with government buyers and contract administrators and insufficient bid preparation time were more important barriers. Again, this is an indication that experience is a factor in respondents' beliefs about these barriers.

The next two null hypotheses analyzed the responses of manufacturers and non-manufacturers in regard to the "Barriers." Analysis of the eleventh hypothesis indicated that the perception of the barriers is not related to the business category.

The analysis of the twelfth null hypothesis found that there were differences in the average response of manufacturers and non-manufacturers when responding to four of the barriers. Manufacturers, on the average, felt more strongly that the following barriers were important: the small business set-aside program and government quality requirements.

The finding about manufacturers and the small business set-aside program reflects the fact that the majority of the manufacturers (85.7%) were also categorized as large

businesses. As such, they would be expected to believe more strongly than non-manufacturers, on the average, that this set-aside program is a barrier. The finding about the quality requirements also intuitively makes sense. As manufacturers, they are more directly responsible and concerned about quality requirements than non-manufacturers.

Analysis of the twelfth null hypothesis also indicated that non-manufacturers felt more strongly, on the average, that the following barriers were important: government shipping schedules and government cancellation and termination policies.

Intuitively, these results make sense. As non-manufacturers, they generally have little influence over the material receipt date from the actual manufacturer. Therefore, they often have difficulty accurately predicting delivery when they quote a schedule to the government and, subsequently, have problems meeting the shipping schedule. In addition, non-manufacturers may, on the average, feel more strongly that the cancellation and termination policies are a barrier, because they may be more adversely affected by these policies. For example, a non-manufacturer may have difficulty cancelling the order with the manufacturer and may damage that relationship and/or be forced to accept material for which he may not have another customer.

The analysis of the last hypothesis, H_{013} , looked for significant relationships between any of the "Barriers."

Seven pair of barriers were found to be correlated. In other words, above average values for one variable were found to be associated with above average values for the other. The following are the pairings of barriers that, from this analysis, appeared be related:

1. Dealing with Buyers and Dealing with Contract Administrators.
2. Dealing with Buyers and Dealing with Inspectors.
3. Dealing with Contract Administrators and Dealing with Inspectors.
4. Cancellation Policies and Knowing What DoD Wants to Buy.
5. Drawings/Specifications and Knowing What DoD Wants to Buy.
6. Dealing with Contract Administrators and Knowing What DoD Wants to Buy.
7. Dealing with Buyers and Knowing What DoD Wants to Buy.

A close look at these related barriers shows that they are methods or channels of communication. The respondents appeared to feel that, if they were finding one of these a barrier, they also found the other a barrier. Commercial style contracting could simplify communications and reduce these barriers, thus, improving DoD's relations with contractors and encouraging them to do business with DoD.

Barriers to Doing Business with DoD

The frequency distributions constructed for each of the 17 barriers provide insight into what policies and

characteristics were considered by the sample to discourage active participation in DoD contracting. The following factors were considered to be barriers by the majority of the sample and merit strong consideration when acquisition streamlining efforts are pursued:

1. Military packaging and marking requirements.
2. Awards based on price alone versus past performance.
3. Contracts difficult to understand.
4. Government payment rate.
5. Inability to reward good suppliers with repeat business.

The following factors were not considered to be barriers by the majority of the sample:

1. The small business set-aside program.
2. The labor surplus area set-aside program.
3. Government quality requirements.
4. Government shipping schedules.
5. Dealing with government buyers.
6. Dealing with government contract administrators.
7. Dealing with government inspectors.
8. Insufficient bid preparation time.
9. Government drawings and specifications.
10. Government cancellation and termination policies.
11. Not knowing what DoD wants to buy.
12. Socio-economic clauses.

Although the majority of the respondents did not indicate that these twelve factors were important barriers, many of the frequency distributions indicate that a substantial number of respondents are concerned with these. Therefore, policy implementors should be aware that, although not as important to this group of contractors as the five listed earlier, these policies or characteristics may still merit attention when streamlining efforts are underway.

Recommendations

Based on the results of this study, the following recommendations are suggested.

Further Research. Additional studies need to be conducted to determine if the results reported here would be duplicated if contractors offering other commodities were surveyed. It may be found that firms in the electronics industry are representative of contractors in general.

A related study should be conducted with government personnel. The responses of buyers, contract administrators, pricing analysts, and quality assurance representatives to questions about these and related issues would be valuable when policy changes are considered.

DoD Policy Changes. As a result of the conclusions drawn from the data, DoD should move forward with plans to conduct a pilot project using commercial style contracting

methods to purchase commercial items. This pilot project could be implemented at the Defense Electronics Supply Center with minimal delay. By placing the program at DESC, further analysis of the actual results could be monitored, compared with the conclusions drawn here, and reported, thus, providing valuable follow-on data for analysis.

In addition to a pilot program, DoD should move ahead with requests for congressional waivers of current restrictive legislation or seek a blanket exemption for the purchase of commercial items. With this, commercial style contracting practices could be expanded to other centers, departments, and agencies.

Summary

This study involved interviewing 379 contractors in the electronics industry to investigate their opinions about the barriers to contracting with DoD today and the potential benefits of using commercial style contracting methods for the acquisition of commercial items by DoD. Statistical analyses were performed which indicate that electronics industry contractors believe that commercial style contracting methods would reduce the cost of supplies, decrease delivery times, and increase the number of firms willing to do business with DoD. The data analysis also showed that certain policies or characteristics of DoD are considered by many of the respondents to discourage

participation in DoD acquisitions. In addition, there were indications that different groups within the sample held different beliefs about the variables being analyzed.

Based on these findings, it was recommended that DoD design a pilot program to test commercial style contracting methods for the acquisition of commercial items and that efforts be continued to decrease or eliminate the barriers to contracting with DoD.

**COMPACT'S
DRAFT STANDARD FORM
GOVERNMENT CONTRACT FOR
COMMERCIAL PRODUCTS**

[illegible]

SECTION C - PRODUCT DESCRIPTION/SPECIFICATION

C.1. Functional Specifications

C.2. Performance Specifications

SECTION D - PACKAGING AND MARKING

D.1. All products shall be packaged according to standard commercial practices in order to insure safe arrival at delivery destination.

D.2. All external product packaging shall be marked according to standard commercial practices. The following special external markings shall be added:

SECTION E - INSPECTION AND ACCEPTANCE

E.1. Inspection and acceptance will be performed at place and time of delivery.

SOLICITATION, OFFER AND AWARD			Page of	
1. CONTRACT NO.	2. SOLICITATION NO.	3. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	4. DATE ISSUED	5. REQUISITION PURCHASE NO.
6. ISSUED BY COMPACT 1735 New York Avenue, N.W., Suite 500 Washington, D.C. 20006			7. ADDRESS OFFER TO (if other than item 6)	
NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"				
SOLICITATION				
8. Sealed offers in original and ___ copies for furnishing the supplies or services in the Schedule will be received at the place specified in item 6, or if handcarried, in the depository located in _____ until _____ local time.				
CAUTION - LATE Submissions, Modifications, and Withdrawals See Section L, Provision No. S2.214-7 or S2.215-10. All offers are subject to all terms and conditions contained in this solicitation.				
9. FOR INFORMATION CALL:	A. NAME William A. Shook		B. TELEPHONE NO. (include area code) (NO COLLECT CALLS) (202) 628-1700	
OFFER (Must be fully completed by offeror)				
10. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s) within the time specified in the schedule.				
11. DISCOUNT FOR PROMPT PAYMENT	10 CALENDAR DAYS %	20 CALENDAR DAYS %	30 CALENDAR DAYS %	___ CALENDAR DAYS %
12. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offers and related documents numbered and dated	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
13A. NAME AND ADDRESS OF OFFEROR	CODE _____ FACILITY _____		14. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (type or print)	
13B. TELEPHONE NO. (include area code)	13C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE. ENTER SUCH ADDRESS IN SCHEDULE <input type="checkbox"/>		15. SIGNATURE	16. OFFER DATE
AWARD (To be completed by Government)				
17. ACCEPTED AS TO ITEMS NUMBERED	18. AMOUNT	19. ACCOUNTING AND APPROPRIATION		
20. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c) <input type="checkbox"/> <input type="checkbox"/> 41 U.S.C. 253(c) <input type="checkbox"/>	21. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)		ITEM	
22. ADMINISTERED BY (if other than item 6)	CODE _____		23. PAYMENT WILL BE MADE BY CODE _____	
24. NAME OF CONTRACTING OFFICER (Type or print)	25. UNITED STATES OF AMERICA (Signature of Contracting Officers)		26. AWARD DATE	

Standard Form 33-C

SECTION F - DELIVERIES

F.1. Delivery terms:

___ FOB Origin

___ FOB Destination

F.2. Required Delivery Date(s):

Item No. ___ on or before _____
(date)

Item No. ___ on or before _____
(date)

Item No. ___ on or before _____
(date)

F.3. Desired Delivery Date(s):

Item No. ___ on or before _____
(date)

Item No. ___ on or before _____
(date)

Item No. ___ on or before _____
(date)

SECTION G - CONTRACT ADMINISTRATION DATA

G.1. The following information is for informational purposes only and is to be completed by the contracting agency.

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1. This is a contract for commercial products. No requirements other than those found elsewhere in this contract will apply unless approved at a level above the contracting officer.

SECTION I - GENERAL TERMS AND CONDITIONS

Federal Acquisition Regulation (FAR) Applicability

- 1.1. Solicitation, evaluation and award shall be made in accordance with FAR Part 14 or 15, as applicable.

Uniform Commercial Code

- 1.2. Unstated terms and conditions will be governed by the applicable portions of the Uniform Commercial Code.

Change Orders

- 1.3. If the government issues a change order causing a delivery delay or cancels an order less than sixty (60) days prior to scheduled shipment, the government shall pay a five percent (5%) charge based upon the contract price of the product. A government extension of delivery dates more than six (6) months beyond the original delivery date shall subject the government to an increase in product price equal to the percentage change in published catalog prices.

Patent and Copyright Indemnity

- 1.4. The offeror shall, except as otherwise provided below, defend or settle any claim made or any suit or proceeding brought against the government so far as it is based on an allegation that any product furnished hereunder infringes a patent or copyright of the country in which the government takes delivery of said product, if notified promptly in writing and given information, assistance and the sole authority to defend or settle same at the offeror's expense, and the offeror shall pay all damages and costs finally awarded therein against the government. In case said product is in such suit held to infringe and the use of said product is enjoined, or in the case of a settlement as referred to above, the offeror shall have the option, at its own expense, to procure for the government the right to continue using said product; or replace same with a non-infringing product; or modify same so it becomes non-infringing; or refund the depreciated value of said product and accept return of same. The offeror shall have no liability for any infringement of patents, copyrights, trademarks or other intellectual property rights resulting from compliance with the government's designs, specifications, or instructions; from modification of said product; from use of said product other than as specified in relevant publications of the offeror or from use of said product with products not supplied by the offeror.

Technical Data Rights

- 1.5. Unless otherwise agreed, the Government shall have only limited rights in technical data specified for delivery under this contract pertaining to items, components, processes or computer software developed exclusively at private expense.

The term "technical data", as used in this clause, means recorded information, regardless of the form or method of the recording of a scientific or technical nature.

The term "limited rights", as used in this clause, means rights to use, duplicate, or disclose technical data, in whole or in part, by or for the government, with the express limitation that such technical data shall not, without the written permission of the party asserting limited rights, be: released or disclosed outside the government; used by the government for manufacture; or used by a party other than the government except that the government may release or disclose technical data to persons outside the government, or permit the use of technical data by such persons, if--

Such release, disclosure or use--

- (1) Is necessary for emergency repair and overhaul; or
- (2) Is a release or disclosure of technical data (other than detailed manufacturing or process data) to, or use of such data by, a foreign government that is in the interest of the government and is required for evaluational or informational purposes;

Such release, disclosure, or use is made subject to a prohibition that the person to whom the data is released or disclosed may not further release, disclose, or use such data; and the contractor or subcontractor asserting the restriction is notified of such release, disclosure or use.

Computer Software Rights

- 1.6. The government shall have restricted rights in the commercial computer software and related documentation delivered under this contract.

When acquired by the government, commercial computer software and related documentation shall be subject to the following:

- (1) Title to and ownership of the software and documentation shall remain with the contractor.
- (2) Use of the software and documentation shall be limited to the facility for which it is acquired.

- (3) The government shall not provide or otherwise make available the software or documentation, or any portion thereof, in any form, to any third party without the prior written approval of the contractor. Third parties do not include prime contractors, subcontractors and agents of the government who have the government's permission to use the restricted rights software and documentation at the facility, and who have agree to use the licensed software and documentation only in accordance with these restrictions.
- (4) The government shall have the right to use the commercial computer software and documentation with the computer for which it is acquired at any other facility to which that computer may be transferred; to use the computer software and documentation with a backup computer when the primary computer is inoperative; to copy computer programs for safekeeping (archives) or backup purposes; and to modify the software and documentation or combine it with other software, provided that the unmodified portions shall remain subject to these restrictions.

Warranty

- 1.7. The offerors standard commercial warranty for the product(s) being sold is hereby incorporated by reference.

FAR Clauses Incorporated By Reference

- 1.8. This contract incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

52.203.1 — Officials Not to Benefit

52.203.3 — Gratuities

52.203.5 — Contingent Fees

52.203.6, As modified — Restriction on Subcontractor Sales to the Government (Paragraph c which requires flowdown is eliminated.

52.203-7, As modified — Anti-Kickback Procedures (Paragraph (c)(5) which requires flowdown is eliminated. 52.203.7002 — Statutory Compensation Prohibitions and Reporting Requirements Relating to Certain Former Department of Defense (DOD) Employees

- 52.207.4 – Economic Purchase Quantity--Supplies
- 52.210.5 – New Material
- 52.210.6 – Listing of Used or Reconditioned Material, Residual Inventory
and Former Government Surplus Property
- 52.210.7 – Used or Reconditioned Material, Residual Inventory, and Former
Government Surplus Property
- 52.215.1 – Examination of Records by Comptroller General
- 52.219.8 – Utilization of Small Business Concerns and Small
Disadvantaged Business Concerns
- 52.219.9 – Small Business and Small Disadvantaged Business
Subcontracting Plan
- 52.219.13 – Utilization of Women-Owned Small Businesses
- 52.220.1 – Preference for Labor Surplus Area Concerns
- 52.220.3 – Utilization of Labor Surplus Area Concerns
- 52.220.4 – Labor Surplus Area Subcontracting Program (Contracts
over \$500,000)
- 52.222.20 – Walsh-Healey Public Contracts Act
- 52.222.21 – Certification of Nonsegregated Facilities
- 52.222.22 – Previous Contracts and Compliance Reports
- 52.222.25 – Affirmative Action Compliance
- 52.222.26 – Equal Opportunity
- 52.222.35 – Affirmative Action for Special Disabled and Vietnam
Era Veterans
- 52.222.36 – Affirmative Action for Handicapped Workers

- 52.222.37 — Employment Reports on Special Disabled Veterans
 and Veterans of the Vietnam Era
- 52.223.2 — Clean Air and Water
- 52.225.3 — Buy American Act--Supplies [Civilian Agencies]
- 52.225.8 — Buy American Act--Trade Agreements Act--Balance of
 Payments Program Certificate [Civilian Agencies]
- 52.225.9 — Buy American Act--Trade Agreements Act--Balance of
 Payments Program [Civilian Agencies]
- 52.225.7000 — Buy American-Balance of Payments Program Certificate
 [Defense Agencies]
- 52.225.7001 — Buy American Act and the Balance of Payments Program
 [Defense Agencies]
- 52.225.7005 — Buy American Act--Trade Agreements Act--Balance of
 Payments Program Certificate [Defense Agencies]
- 52.225.7006 — Buy American Act, Trade Agreements Act, and the Balance of
 Payments Program [Defense Agencies]
- 52.229.3 — Federal, State, and Local Taxes
- 52.232.1 — Payments
- 52.232.17 — Interest
- 52.232.23 — Assignment of Claims
- 52.232.25 — Prompt Payment
- 52.233.3 — Protest After Award
- 52.243.1 — Changes--Fixed-Price
- 52.246.1 — Contractor Inspection Requirements
- 52.246.16 — Responsibility for Supplies
- 52.246.23 — Limitation of Liability
- 52.249.8 — Default (Fixed-Price Supply and Service)

SECTION J - LIST OF ATTACHMENTS

J.1. This contract contains the following attachments:

SECTION K - REPRESENTATIONS AND CERTIFICATIONS

K.1. The following representations and certifications must be completed by the offeror.

52.219.1 – Small Business Concern Representation

The offeror represents and certifies as part of its offer that it __ is, __ is not a small business concern and that __ all, __ not all end items to be furnished will be manufactured or produced by a small business concern in the United States, its territories or possessions, Puerto Rico, or the Trust Territory of the Pacific Islands. "Small business concerns," as used in this provision, means a concern, including affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

52.219.2 – Small Disadvantaged Business Concern Representation

(a) Representation. The offeror represents that it __ is, __ is not a small disadvantaged business concern.

(b) Definitions.

"Asian-Indian American," as used in this provision, means a United States citizen whose origins are in India, Pakistan, or Bangladesh.

"Asian-Pacific American," as used in this provision, means a United States citizen whose origins are in Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territory of the Pacific Islands, the Northern Mariana Islands, Laos, Cambodia, or Taiwan.

"Native Americans," as used in this provision, means American Indians, Eskimos, Aleuts, and native Hawaiians.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals and (2) has its management and daily business controlled by one or more such individuals.

- (c) Qualified groups. The offeror shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans, and other individuals found to be qualified by the SBA under 13 CFR 124.1.

52.219.3 — Women-Owned Small Business Representation

- (a) Representation. The offeror represents that it __ is, __ is not a women-owned small business concern.
- (b) Definitions.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominate in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

"Women-owned," as used in this provision, means a small business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

52.222.19 — Walsh-Healey Public Contracts Act Representation

The offeror represents as a part of this offer that the offeror is __ or is not __ a regular dealer in, or is __ or is not __ a manufacturer of, the supplies offered.

52.223.1 — Clean Air and Water Certification

The Offeror certifies that—

- (a) Any facility to be used in the performance of this proposed contract is __, is not __ listed on the Environmental Protection Agency List of Violating Facilities;

- (b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and
- (c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

52.225.1 — Buy American Certificate [Civilian Agencies]

The offeror certifies that each end product, except those listed below, is a domestic end product (as defined in the clause entitled "Buy American Act--Supplies"), and that components of unknown origin are considered to have been mined, produced, or manufactured outside the United States.

Excluded End Products

Country of Origin

.....

(List as necessary)

Offerors may obtain from the contracting officer lists of articles, materials, and supplies excepted from the Buy American Act (listed at 25.108 of the Federal Acquisition Regulation).

SECTION L - EVALUATION FACTORS FOR AWARD

- L.1. Award shall be made to the offer representing the lowest evaluated cost to the government based on initial product price and other evaluated quality costs.
- G.2. Options shall ___ shall not ___ be evaluated.
- G.3. Discounts for prompt payment shall not be evaluated.
- G.4. Quality cost factors to be evaluated and their relative weight are:

Appendix B: Introduction and Survey Instrument

Good morning/afternoon. My name is Eleanor Holland. I am a graduate student at the Air Force Institute of Technology and am conducting research in the area of government contracting practices.

As you may be aware, many in Washington have been urging simplification of Federal contracting. They believe that there are too many laws and regulations getting in the way of common sense and feel that this can result in paying too steep a price for even simple items. As a result, innovation is being encouraged within the Department of Defense (DoD).

As part of this process of change, this research study which will survey contractors like you within the Electronics Industry to determine the potential effects of radically changing the procedures for purchasing commercial items. The current method of incorporating the clauses and provisions of the Federal Acquisition Regulation (FAR) and its supplements could be replaced by adopting a simplified contracting instrument using the framework of the Uniform Commercial Code (UCC). These awards would be similar to those your firm uses today in its commercial transactions.

Your firm has been randomly selected to participate in this survey. Not every electronics firm will be surveyed,

so your responses are particularly critical to assure that we get complete information. Your responses will be completely confidential. Neither your name nor your firm's name will appear on the survey or in any description of the results.

If the survey indicates that commercial-style contracting would be beneficial, it will be used to push for a change in the system within DoD. This is an opportunity to have your voice heard by the policy makers in Washington!

DATE: _____ TIME: _____ CONTROL #: _____
NAME: _____ PHONE: () _____
FIRM: _____

May I have a few minutes of your time now? IF YES, go to question 1.

IF NO....When would it be convenient for me to call you back?

Fine...I'll call you on _____
at _____.

Would you like me to send you a copy of the survey before I call you back?

IF YES.....Do you have a FAX number?

IF NO.....May I please have your correct address?

Thank you for your cooperation.

First, I have a few general questions about your firm.

1. Approximately, how long has your firm been in business?

- | | | |
|-----------------|--------------|------------------|
| [1] LESS THAN 2 | [3] 5 TO 10 | [5] MORE THAN 20 |
| [2] 2 TO 5 | [4] 10 TO 20 | |

2. As you may know, the Department of Defense includes the Army, Navy, Air Force, Marines, and a number of other agencies like the Defense Security Agency, the Defense Communications Agency, and the Defense Logistics Agency. The Defense Logistics Agency is made up of a number of Centers around the country such as Defense Electronics Supply Center, Defense Industrial Supply Center, Defense Construction Supply Center, Defense Personnel Support Center and Defense General Supply Center. Which of these has your firm done business with in the past 5 years?

- 2) ☐ ARMY
- 3) ☐ AIR FORCE
- 4) ☐ NAVY
- 5) ☐ MARINES
- 6) ☐ DEFENSE ELECTRONIC SUPPLY CENTER
- 7) ☐ DEFENSE INDUSTRIAL SUPPLY CENTER
- 8) ☐ DEFENSE CONSTRUCTION SUPPLY CENTER
- 9) ☐ DEFENSE PERSONNEL SUPPORT CENTER
- 10) ☐ DEFENSE GENERAL SUPPLY CENTER
- 11) ☐ DEFENSE SECURITY AGENCY
- 12) ☐ DEFENSE COMMUNICATIONS AGENCY
- 13) ☐ OTHER AGENCY: _____
- 14) ☐ NONE
- 15) ☐ DO NOT KNOW

3. If competing for DoD awards, under which business category would you generally be considered?

- 16) ☐ DEALER ☐ DISTRIBUTOR ☐ MANUFACTURER
- ☐ MFG REP ☐ OTHER: _____

4. If competing for DoD awards, under which business size classification would you generally qualify?

- 17) ☐ SMALL BUSINESS ☐ SMALL DISADVANTAGED BUSINESS
- ☐ LARGE BUSINESS ☐ SMALL WOMAN OWNED BUSINESS
- ☐ DO NOT KNOW

5. Are you currently doing business with the DoD?

- 18) ☐ YES ☐ NO IF YES, ASK QUESTIONS 6, 7, & 8. IF NO, SKIP TO 9.

6. Could you estimate the percentage of your firm's business that DoD awards represent:

- 19) [1] MORE THAN 0% BUT LESS THAN OR EQUAL TO 10%
[2] MORE THAN 10% BUT LESS THAN OR EQUAL TO 25%
[3] MORE THAN 25% BUT LESS THAN OR EQUAL TO 50%
[4] MORE THAN 50% BUT LESS THAN OR EQUAL TO 75%
[5] MORE THAN 75% BUT LESS THAN 100%
[6] 100%
[7] DO NOT KNOW
[8] DO NOT WISH TO ANSWER

7. Could you estimate the annual dollar value of your business with DoD:

- 20) [1] MORE THAN 0 BUT LESS THAN OR EQUAL TO \$50,000
[2] MORE THAN \$50,000 BUT LESS THAN OR EQUAL TO \$100,000
[3] MORE THAN \$100,000 BUT LESS THAN OR EQUAL TO \$500,000
[4] MORE THAN \$500,000 BUT LESS THAN OR EQUAL TO \$1,000,000
[5] MORE THAN \$1,000,000 BUT LESS THAN OR EQUAL TO \$5,000,000
[6] MORE THAN \$5,000,000
[7] DO NOT KNOW
[8] DO NOT WISH TO ANSWER

8. Next, I am going to list a number of reasons that firms may decide to do business with DoD. For each reason, I am looking for 1 of 3 responses from you: YOU DO NOT KNOW IF THE REASON IS A FACTOR, YOU BELIEVE IT IS NOT A FACTOR, or YOU BELIEVE IT IS A FACTOR AND RATE IT ON A SCALE OF 1 TO 4, WITH 1 BEING A VERY UNIMPORTANT REASON AND 4 BEING A VERY IMPORTANT REASON.

REASONS	Very Unimport Reason	Somewhat Unimport Reason	Somewhat Important Reason	Very Important Reason	Not a Factor	Do not Know
21) Impartiality in determining awardee	1	2	3	4	5	8
22) Certainty of payment	1	2	3	4	5	8
23) Attitude of Govt. buyers	1	2	3	4	5	8
24) Attitude of Govt. contract admin.	1	2	3	4	5	8
25) Attitude of inspectors	1	2	3	4	5	8
26) Set-asides for small disadvan. businesses	1	2	3	4	5	8
27) Set-asides for small businesses	1	2	3	4	5	8
28) Chance for higher prices	1	2	3	4	5	8
29) Patriotism	1	2	3	4	5	8
30) Keep workers employed and busy	1	2	3	4	5	8
31) Broaden product line	1	2	3	4	5	8
32) Gain tech advances	1	2	3	4	5	8
33) DoD is a major buyer in my firm's industry	1	2	3	4	5	8
34) Tradition	1	2	3	4	5	8

Are there any additional reasons that I have not mentioned?

OTHER: _____	1	2	3	4
OTHER: _____	1	2	3	4

9. I will now read four statements contrasting current DoD procurement practices with commercial practices. Would you please indicate the degree of your agreement or disagreement with each statement? The scale ranges from 1 to 4 with 1 being strongly disagree and 4 being strongly agree. You might want to jot down this scale to refer to as I go through the list. If you have no opinion, please state so.

	Strongly Disagree	Mildly Disagree	Mildly Agree	Strongly Agree	No Opinion
35) Contractors find it more difficult to understand DoD contracts and purchase orders than commercial equivalents. Do you	1	2	3	4	8
36) Contractors would be more willing to do business with DoD if they used commercial style contracts. Do you	1	2	3	4	8
37) Contractors would be able to quote lower prices if DoD used commercial style contracts. Do you	1	2	3	4	8
38) Contractors would be able to deliver items faster if DoD used commercial style contracts. Do you	1	2	3	4	8

10. Some firms prefer not to do business with DoD (consistently or occasionally) for various reasons. For each of the possible reasons I will now read, please indicate the degree to which you consider these reasons to be barriers. Again, we will use a scale of 1 to 4 with 1 being a VERY UNIMPORTANT BARRIER and 4 being a VERY IMPORTANT BARRIER. If you have no opinion, please state so.

REASONS	Very Unimportant Barrier	Somewhat Unimportant Barrier	Somewhat Important Barrier	Very Important Barrier	No Opinion
39) Small business program	1	2	3	4	8
40) Labor surplus area program	1	2	3	4	8
41) Govt. quality requirements	1	2	3	4	8
42) Govt. shipping schedules	1	2	3	4	8
43) Military Packaging/Marking	1	2	3	4	8
44) Awards made on price alone vs. past performance	1	2	3	4	8
45) Contracts too difficult to understand	1	2	3	4	8
46) Payments too slow	1	2	3	4	8
47) Dealing with Govt. buyers	1	2	3	4	8
48) Dealing with Government contract administrators	1	2	3	4	8
49) Dealing with Govt. inspectors	1	2	3	4	8
50) Insufficient time to prepare bids or offers	1	2	3	4	8
51) Government drawings/specs	1	2	3	4	8
52) Government's inability to reward good suppliers with repeat business	1	2	3	4	8
53) Government's cancellation/ termination policies	1	2	3	4	8
54) Do not know what the DoD wants to buy	1	2	3	4	8
55) Socio-economic Clauses such as EEO, Walsh Healey, Drug Free Workplace	1	2	3	4	8

Do you know of any additional reasons, that I have not mentioned, that would act as barriers to doing business with DoD?

Other: _____ 1 2 3 4

Thank you for taking the time to answer these questions. Your responses will be very helpful in determining the consensus of opinion of contractors in the industry.

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE SEPTEMBER 1990	3. REPORT TYPE AND DATES COVERED MASTER'S THESIS		
4. TITLE AND SUBTITLE A SURVEY OF CONTRACTORS' PERCEPTIONS OF CURRENT BARRIERS TO CONTRACTING WITH THE DEPARTMENT OF DEFENSE AND THE POTENTIAL BENEFITS OF THE ADOPTION OF COMMERCIAL STYLE ACQUISITION METHODS		5. FUNDING NUMBERS		
6. AUTHOR(S) Eleanor G. Holland				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air Force Institute of Technology, WPAFB OH 45433		8. PERFORMING ORGANIZATION REPORT NUMBER AFIT/GLM/LSP/90S-26		
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSORING / MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words) This study investigated the potential benefits of adopting commercial style contracting methods for the acquisition of commercial items by DoD. Also analyzed were contractors' opinions about possible barriers to contracting with DoD. A literature review indicated that many experts agree that current methods are too complex and that today's environment would welcome development of a pilot program in commercial style contracting. A survey was administered to approximately 400 contractors in the electronics industry. The results indicate that electronics contractors believe commercial style contracting methods would reduce the cost of supplies, decrease delivery times, and increase the number of firms willing to do business with DoD. As a result of these findings, it was recommended that DoD pursue commercial style contracting for commercial items and that a pilot program be developed at the Defense Electronics Supply Center to test this concept. Further data analysis indicated that certain government policies or characteristics discourage participation by contractors in the DoD contracting arena. Based on these findings, it was recommended that barriers to contracting be reduced. <i>Keywords: Commercial Style Contracting, Acquisition, Electronics</i>				
14. SUBJECT TERMS Commercial Style Competition, Commercial Style Contracting, Contracting, Acquisition, Uniform Commercial Code, Barriers to Contracting, Commercial Items, Spare Parts, Survey, Electronics			15. NUMBER OF PAGES 176	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	